NEW ADDRESS
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Snap-on*

INDUSTRIAL CATALOG 67-P

WRENCHES AND HAND TOOLS for PRODUCTION and MAINTENANCE

*Registered U.S. Patent Office



SNAP-ON TOOLS CORPORATION, Kenosha, Wis.

*Snap-on

INDUSTRIAL

WRENCHES AND HAND TOOLS

here's how ®Snap-on solves hand tool problems



Production . . . SNAP-ON offers a complete range of industrial wrenches and tools for product assembly.

Original Equipment . . . SNAP-ON provides custom tool kits for inclusion with new products shipped from your factory.

Maintenance . . . SNAP-ON provides maintenance tools for servicing anything from plant facilities and machines to every type of vehicle.

Field Service . . . SNAP-ON assembles special field-service tool kits for servicing everything from giant excavators to miniaturized electronic equipment.

plus ®Snap-on personal service

SNAP-ON Sales Engineers work closely with industry to cut costs, keep production on the move. Here are a few examples:

- Survey all hand tool needs for preventive maintenance — then provide the right tools at the right place at the right time.
- Assist tool crib supervisor in evaluating tool inventory in relation to production needs.
- Observe production procedures and make recommendations (one electronics firm is torquing components in ⅓ the time because of a SNAP-ON recommendation!).
- Set up inventory control for automatic replacement of high-use items (impact sockets).

Whatever your tool problem, write us or call your nearby SNAP-ON representative.

FOLLOW THESE SAFETY RULES

IMPORTANT. Protect Yourself . . . wear safety goggles or safety glasses when using chisels and punches.

Protect Others . . . work in a booth or with portable screens and warn nearby workers. Avoid "mushroomed" striking ends — keep them ground to original size and shape. Keep chisel edges sharp and punch ends flat — do all grinding on a wheel equipped with coolant to help avoid overheating the metal. Always use the proper size punch and hold it in direct line to the pin being driven. Proper tool care and usage helps prevent injuries.

Use only Industrial Power and Impact type sockets on electric or pneumatic impact wrenches or nut runners.

Always make sure that electrical equipment and tools are grounded.

Always use the right size and type of such tools as punches, chisels, screwdrivers, hammers, wrenches, etc. A rounded or chipped screwdriver tip is a dangerous tool — file the tip to original shape.

Don't use a screw driver for any other purpose.

Keep screwdrivers, pliers, and other tools clear of electrical hazards.

Wrench handle lengths are designed to keep leverage and wrench strength compatible — increasing leverage by any method is dangerous.

When using any tool, protect your eyes with safety glasses or goggles. Be especially careful when grinding, polishing, punching, chiseling, etc.

"*SNAP-ON" IS THE REGISTERED TRADEMARK OF SNAP-ON TOOLS CORPORATION

Snap-on® Tools – Shop Equipment

ARE MANUFACTURED TO THE HIGH STANDARDS OF QUALITY ESSENTIAL FOR PROFESSIONAL USE

When you buy SNAP-ON tools you are protected against defects due to faulty materials or workmanship

SNAP-ON Hand Tool Guarantee

Any SNAP-ON hand tool or part which fails because of defective workmanship or material will be repaired or replaced when returned to a SNAP-ON representative or branch warehouse.

SNAP-ON Equipment Guarantee

SNAP-ON equipment items which fail because of defective material or workmanship will be repaired or replaced when returned to any authorized representative or SNAP-ON branch warehouse when the unit is within warranty period.

Because of the wide variety of items involved a guarantee card showing the warranty period is supplied with each piece of equipment.

SUBSIDIARY AND FOREIGN SALES OFFICES

SNAP-ON TOOLS OF CANADA, LTD.

Factory and General Offices	Area Code	Telephone No.
8271 Keele St., Vaughan Township, Ont., P.O. Box 700 Downsview, Ont.,	416	889-7501
ALBERTA, Calgary, 3625 Blackburn Rd.,	403	443-4960
BR. COLUMBIA, Vancouver, 1780 W. 3rd Ave.,	604	738-3171
MANITOBA 21, Winnipeg, 490 Berry St.,	204	888-5093
N. BRUNSWICK, Moncton, 77- Victoria Ave.,	506	382-4159
ONTARIO, Hamilton, 37 Morley St.,	416	549-3549
London, 465 Nightingale Ave.,	519	451-1540
North Bay, 1335 Depencier Rd.,	705	472-0970
Toronto 16, 10 Bermondsey Rd.,	416	757-4115
QUEBEC, Montreal 26, 274 Bates Rd.,	514	733-7170
Ste-Foy 10, 2155 Boul., Charest Ouest	418	681-7734

HERRAMIENTAS SNAP-ON DE MEXICO, S.A.
Mexico 4, D.F., Insurgentes Norte Numero 496
Frente Unidad Nonoalco Tlatelolco 47-87-07

HERRAMIENTAS LATINO-AMERICANA, S.A. DE C.V.
Mexico 14, D.F., Poniente 140 Numero 526A
Industrial Vallejo 37-17-21

SNAP-ON INTER-AMERICAS, LTD.
CURACAO, N. Ant., P.O. Box 127, Cable: "SNAPONCUR"
Shell Hoofdkantoor, Emmastad 9-8051

SNAP-ON AG
SWITZERLAND, Zug—Cable: "SNAPONAG"
Geschaftshaus Zentrum, Zeughausgasse 9 042-42242

SNAP-ON TOOLS
LEBANON, Cable: "SNAPONBEY"
Shams Bldg., Raouch, Beirut 244-205
ENGLAND, Kettering, Northants
Site 9, Trafalgar Rd., ... Kettering-2674

BRANCH SALES OFFICES PROVIDE

Snap-on® TOOL SERVICE THROUGHOUT INDUSTRY

	Area Code	Telephone No.
ARIZONA 85034, Phoenix, 3229 E. Washington St.,	602	275-2489
CALIFORNIA 90017, Los Angeles, 1717 W. Sixth St.,	213	388-3445
94608, Oakland Area, P.O. Box 8573 Emeryville, 6390 Christie Ave.,	415	654-8666
92806, Anaheim, 1521 N. Placentia Ave.,	714	635-4550
COLORADO 80211, Denver, 2160 Clay St.,	214	433-6238
CONNECTICUT 06109, Hartford Area, Wethersfield, 980 Silas Deane Highway, P.O. Box 150	203	259-7481
FLORIDA 32206, Jacksonville, 1601 Walnut St., P.O. Box 3133	904	354-4469
33148, Miami, 7025 N.W. 41st St., P.O. Box 48-626	305	887-7336
GEORGIA 30324, Atlanta, 2075 Liddell Drive, N.E., P.O. Box 13635, Station K	404	875-9682
HAWAII 96819, Honolulu, 2111 Eluwene St.,		817-308
ILLINOIS 60607, Chicago, 120 N. May St.,	312	738-3245
60525, La Grange, 108 E. Burlington Ave., P.O. B. 388	312	352-1060
INDIANA 46220, Indianapolis, 2424 E. 55th Place	317	253-6418
LOUISIANA 70002, New Orleans Area, Metairie, 3711 Hessmer Ave., P.O. Box 7155	504	888-4300
MARYLAND 21205, Baltimore, 4503 E. Monument St.,	301	342-4466
MASSACHUSETTS 01761, Boston Area, Natick, W. Central St., P.O. Box 217	617	653-2990
MICHIGAN 48024, Detroit Area, Farmington, 20750 Chesley Drive, P.O. Box 463	313	476-7300
MINNESOTA 55416, Minneapolis, 4940 W. 35th St.,	612	927-7994
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63139, St. Louis, 2165 Hampton Ave.,	314	647-2338
NEBRASKA 68107, Omaha, 3716 "D" St.,	402	731-8330
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NEW YORK 12205, Albany, 118 Everett Road	518	438-4056
14213, Buffalo, 628 W. Utica St.,	716	883-6374
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13206, Syracuse, 1622 Burnet Ave.,	315	479-7561
N. CAROLINA 28210, Charlotte, 3621 Tryclan Ave., P.O. Box 15216	704	525-0060
OHIO 45215, Cincinnati, 666 Redna Terrace	513	771-9114
44118, Cleveland, 2066 S. Taylor Road	216	371-3457
43608, Toledo, 1326 Expressway Drive, N.,	419	729-3771
OKLAHOMA 73105, Oklahoma City, 100 N.E. 50th St.,	405	528-2825
PENNSYLVANIA 17043, Harrisburg Area, Lemoyne, 549 Bosler Ave., P.O. Box 43	717	238-5219
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15221, Pittsburgh, 630 Ardmore Blvd.,	412	242-5551
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TENNESSEE 38116, Memphis, 3106 Norbrook Drive	901	396-5703
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77036, Houston, 5605 Bellaire Blvd.,	713	666-3611
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VIRGINIA 23229, Richmond, 2504 Waco Ave.,	703	288-5749
WASHINGTON 98107, Seattle, 4503 8th Ave., N.W.,	206	782-2192
WISCONSIN 53222, Milwaukee, 3450 N. 84th St.,	414	871-3220

INDUSTRIAL & RAILROAD DEPARTMENT:
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Factories: Kenosha, Wis., Mt. Carmel, Ill., Algona, Iowa, Natick, Mass., Toronto, Ont., Mexico City, D.F.

Snap-on® INDUSTRIAL SOCKETS

ARE SPECIALLY ENGINEERED AND HEAT TREATED FOR USE ON POWERED CLUTCH-TYPE AND IMPACT-TYPE NUT RUNNERS

Tips to help you cut impact socket breakage

Sockets used on powered nut runners and impact wrenches take a terrific beating and Standard Type sockets are not designed for this type of work. SNAP-ON Industrial Sockets, however, are built expressly for the purpose and have the design, construction and toughness to withstand this hard usage. They provide greater economy through greatly increased numbers of nut settings per wrench. In order to help you secure the maximum life from industrial sockets and keep breakage to a minimum we make the following recommendations.

- Position the power wrench so that the socket fits straight on the nut . . . placing it on at an angle may cause a binding effect and result in breakage.
- Use the right size socket and replace worn or undersized nuts . . . sockets used on such nuts will receive excessive wear and become subject to breakage.
- Do not continue impacting on a tightly set nut . . . this results in needless wear on both wrench and socket.
- Keep the inside of sockets clean. Dirt and grease in the socket is a common cause of breakage in both industrial and standard sockets.
- When the male drive end of a power wrench becomes worn, replace it with a new one. The loose play of the worn drive end will soon cause excess wear in the socket drive opening and cause early socket breakage.

Best tip yet!

ALWAYS USE Snap-on® INDUSTRIAL SOCKETS

For repair parts or for SNAP-ON tool repair service consult the SNAP-ON representative or the nearest SNAP-ON branch office.

IMPORTANT NOTICE

We reserve the right to make changes in design or construction at any time without incurring any obligation to incorporate such changes in tools or equipment previously sold . . . also to discontinue the manufacture of any tools or equipment at such time as we deem it necessary. All dimensions shown in this catalog are subject to commercial tolerances.

•

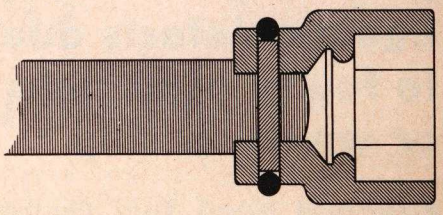
We cannot accept responsibility for the results of using tools which have been abused or badly worn, tools such as chisels and punches mushroomed by hammer blows, incorrect use of tools or tools repaired by others.

•

Information contained herein supersedes that given in any previous catalogue of SNAP-ON Industrial wrenches and hand tools.

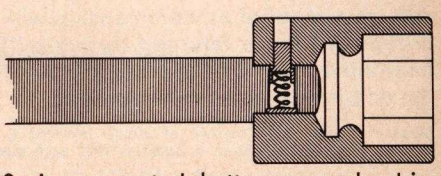
SNAP-ON sockets are attached to shanks or handles by means of these holding devices

PIN AND RING



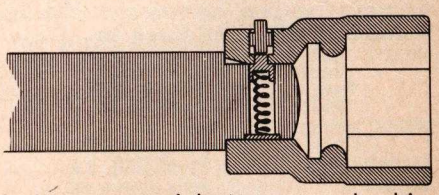
A steel or rawhide pin is inserted through both sides of the socket wall and the male square drive of shank on impact wrench. Synthetic rubber band holds pin in place. Used on Power-Impact type units.

LOCKING BUTTON



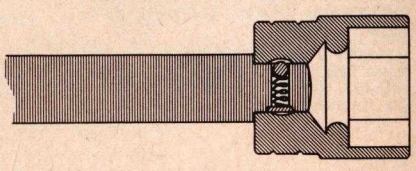
Spring operated button on male drive enters hole in one side of socket wall . . . use of small rod, nail, etc., is required to effect release. Used on Power type units.

LOXOCKET RELEASE BUTTON



Spring operated button on male drive enters hole in one side of socket wall . . . press-button in socket wall effects release. Used on ¾ and 1" drive Standard type socket wrench units.

FRICTION BALL



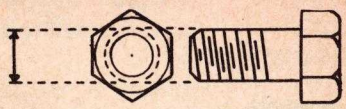
Spring operated button grips machined grooves in either of the four walls of the socket. A quick, sharp pull effects release. Used on ¼, ⅜ and ½" drive Standard socket wrench units.

THIS CHART SHOWS THE PROPER WRENCH SIZE TO FIT STANDARD BOLTS, NUTS AND SCREWS

If bolt or nut standard is not known, order wrenches of same size as width across flat of bolt head or nut.

THREAD DIAMETER OF BOLT, NUT OR SCREW

Determine the type of bolt, nut or screw and locate the thread diameter below. Then move across to the left hand column to find the wrench size that will fit the bolt head or nut.



NOMINAL WRENCH SIZE Also width across flats of Bolts, Screw Heads and Nuts	AMERICAN STANDARD ASSOCIATION (B18.2.1 and B18.2.2 — 1965)					OLD U.S. STANDARD		OLD S.A.E. STANDARD
	BOLTS			NUTS				
	Square Bolt Hex Bolt Hex Cap Screw (Finished Hex Bolt) Lag Screw	Heavy Hex Bolt Heavy Hex Screw Heavy Hex Structural Bolt	Square Nut	Hex Flat Hex Flat Jam Hex Hex Jam Hex Slotted Hex Thick Hex Thick Slotted Hex Castle	Heqvy Square Heavy Hex Flat Heavy Hex Flat Jam Heavy Hex Heavy Hex Jam Heavy Hex Slotted	National Coarse Bolts and Nuts	Cap Screws	National Fine Bolts, Nuts & Screws
9/32"	No. 10*	—	—	—	—	—	—	—
5/16"	—	—	—	—	—	—	—	—
11/32"	—	—	—	—	—	—	—	—
3/8"	1/4"*	—	—	—	—	—	—	—
7/16"	1/4"	—	1/4"	1/4"	—	—	1/4"	1/4"
1/2"	5/16"	—	—	5/16"	1/4"	1/4"	5/16"	5/16"
9/16"	3/8"	—	5/16"	3/8"	5/16"	—	3/8"	3/8"
19/32"	—	—	—	—	—	5/16"	—	—
5/8"	7/16"	—	3/8"	—	—	—	7/16"	7/16"
11/16"	—	—	—	7/16"	3/8"	3/8"	—	—
3/4"	1/2"	—	7/16"	1/2"	7/16"	—	1/2"	1/2"
3/4"	—	—	—	—	—	7/16"	—	—
13/16"	9/16"	—	1/2"	—	—	—	9/16"	—
7/8"	—	1/2"	—	9/16"	1/2"	1/2"	5/8"	9/16"
15/16"	5/8"	—	—	5/8"	9/16"	—	—	5/8"
31/32"	—	—	—	—	—	9/16"	—	—
1"	—	—	5/8"	—	—	—	3/4"	—
1 1/16"	—	5/8"	—	—	5/8"	5/8"	—	3/4"
1 1/8"	3/4"	—	3/4"	3/4"	—	—	7/8"	—
1 1/4"	—	3/4"	—	—	3/4"	3/4"	1"	7/8"
1 5/16"	7/8"	—	7/8"	7/8"	—	—	—	—
1 3/8"	—	—	—	—	—	—	1 1/8"	—
1 7/16"	—	7/8"	—	—	7/8"	7/8"	—	1"
1 1/2"	1"	—	1"	1"	—	—	1 1/4"	—
1 5/8"	—	1"	—	—	1"	1"	—	1 1/8"
1 11/16"	1 1/8"	—	1 1/8"	1 1/8"	—	—	—	—
1 13/16"	—	1 1/8"	—	—	1 1/8"	1 1/8"	—	1 1/4"
1 7/8"	1 1/4"	—	1 1/4"	1 1/4"	—	—	—	—
2"	—	1 1/4"	—	—	1 1/4"	1 1/4"	—	1 3/8"
2 1/16"	1 3/8"	—	1 3/8"	1 3/8"	—	—	—	—
2 3/16"	—	1 3/8"	—	—	1 3/8"	1 3/8"	—	1 1/2"
2 1/4"	1 1/2"	—	1 1/2"	1 1/2"	—	—	—	—
2 3/8"	—	1 1/2"	—	—	1 1/2"	1 1/2"	—	—
2 7/16"	1 5/8"	—	—	—	—	—	—	—
2 9/16"	—	1 5/8"	—	—	1 5/8"	1 5/8"	—	—
2 5/8"	1 3/4"	—	—	—	—	—	—	—
2 3/4"	—	1 3/4"	—	—	1 3/4"	1 3/4"	—	—
2 13/16"	1 7/8"	—	—	—	—	—	—	—
2 15/16"	—	1 7/8"	—	—	1 7/8"	1 7/8"	—	—
3"	2"	—	—	—	—	—	—	—
3 1/8"	—	2"	—	—	2"	2"	—	—
3 3/8"	2 1/4"	—	—	—	—	—	—	—
3 1/2"	—	2 1/4"	—	—	2 1/4"	2 1/4"	—	—
3 3/4"	2 1/2"	—	—	—	—	—	—	—
3 7/8"	—	2 1/2"	—	—	2 1/2"	2 1/2"	—	—
4 1/8"	2 3/4"	—	—	—	—	—	—	—
4 1/4"	—	2 3/4"	—	—	2 3/4"	2 3/4"	—	—
4 1/2"	3"	—	—	—	—	—	—	—
4 5/8"	—	3"	—	—	3"	3"	—	—
4 7/8"	3 1/4"	—	—	—	—	3 1/4"	—	—
5"	—	—	—	—	3 1/4"	3 1/2"	—	—
5 1/4"	3 1/2"	—	—	—	3 1/2"	3 3/4"	—	—
5 3/8"	—	—	—	—	3 1/2"	4"	—	—
5 5/8"	3 3/4"	—	—	—	3 3/4"	—	—	—
5 3/4"	—	—	—	—	3 3/4"	—	—	—
6"	4"	—	—	—	4"	—	—	—
6 1/8"	—	—	—	—	4"	—	—	—

* Regular square only.

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INDUSTRIAL "FLANK DRIVE" SOCKETS

Thin Wall, High Performance Wrenches Engineered for use on "12 point" Double Hexagon, High tension nuts, bolts & cap screws

(U.S. Patent No. 3,273,430)



Ratchet and other type handles for use with these sockets are shown on pages 10P, 17P, 23P and 33P of this section and pages 32, 34, 35, 40, 41 and 47 of the general catalog section. The black finish units are drilled clear through the drive end for a locking pin.

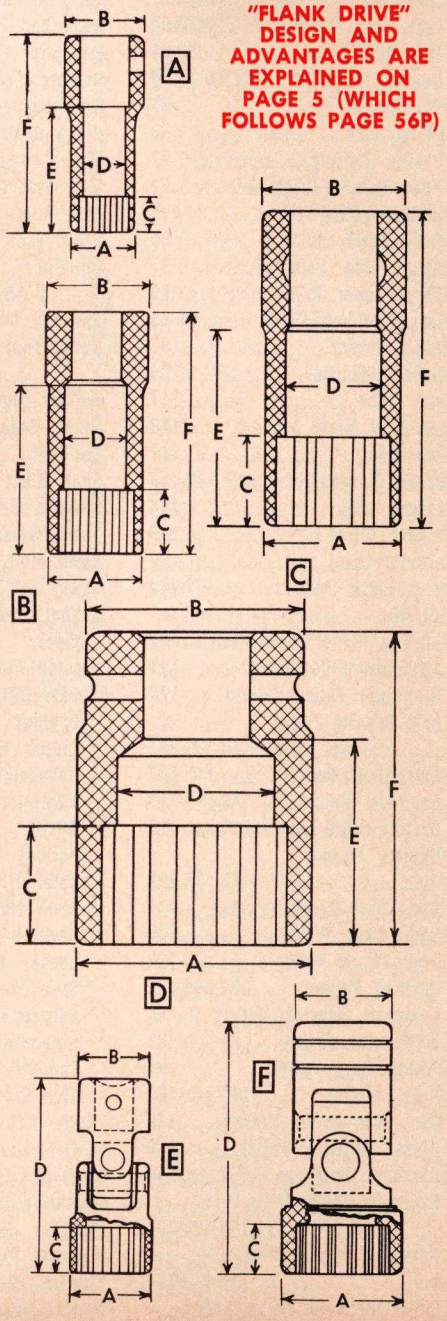
"FLANK DRIVE" SOCKETS

Wrench Size	Stock Number Black	Stock Number Chrome	Socket End A	Handle End B	Broach Depth C	Bolt Clear. Dia. D	Bolt Clear. Depth E	Overall Length F
Ⓐ ¼" SQUARE DRIVE UNITS								
7/32"	—	▲TDH-7	1 1/32"	7/16"	3/16"	3/16"	27/32"	1¼"
¼"	TDHB-8	▲TDH-8	3/8"	7/16"	7/32"	13/64"	25/32"	1¼"
9/32"	—	▲TDH-9	27/64"	27/64"	9/32"	¼"	27/32"	1¼"
5/16"	TDHB-10	▲TDH-10	7/16"	7/16"	5/16"	17/64"	25/32"	1¼"
Ⓑ ⅜" SQUARE DRIVE UNITS								
¼"	FDHB-080	▲FDH-080	25/64"	1 1/16"	7/16"	3/16"	25/32"	1¼"
5/16"	FDHB-100	▲FDH-100	29/64"	1 1/16"	5/16"	17/64"	25/32"	1¼"
11/32"	—	▲FDH-110	½"	1 1/16"	1 1/32"	19/64"	29/32"	1⅜"
⅜"	FDHB-120	▲FDH-120	17/32"	1 1/16"	1 1/32"	21/64"	1 1/32"	1½"
7/16"	FDHB-140	▲FDH-140	39/64"	1 1/16"	27/64"	25/64"	1 1/32"	1½"
½"	FDHB-160	▲FDH-160	1 1/16"	1 1/16"	7/16"	1 5/32"	1 9/32"	1¾"
Ⓒ ½" SQUARE DRIVE UNITS								
½"	SDHB-160	▲SDH-160	47/64"	⅞"	7/16"	29/64"	1⅛"	1¾"
9/16"	SDHB-180	▲SDH-180	13/16"	15/16"	½"	33/64"	1⅛"	1¾"
5/8"	SDHB-200	▲SDH-200	57/64"	1 5/16"	17/32"	37/64"	1⅛"	1¾"
11/16"	SDHB-220	▲SDH-220	31/32"	1"	19/32"	41/64"	1⅛"	1¾"
¾"	SDHB-240	▲SDH-240	1 1/32"	1"	5/8"	45/64"	1⅛"	1¾"
25/32"	SDHB-250	▲SDH-250	1 1/16"	1"	5/8"	23/32"	1⅛"	1¾"
13/16"	—	▲SDH-260	1⅛"	1 1/16"	1 1/16"	23/32"	1⅛"	1¾"
Ⓓ ¾" SQUARE DRIVE UNITS								
¾"	IMFD-242	—	1⅛"	1½"	5/8"	1 1/16"	1⅜"	2⅛"
13/16"	IMFD-262	—	1 3/16"	1½"	1 1/16"	23/32"	1⅜"	2⅛"
⅞"	IMFD-282	—	1 5/16"	1½"	¾"	25/32"	1⅜"	2⅛"
15/16"	IMFD-302	—	1⅜"	1½"	1 3/16"	27/32"	1 7/16"	2 3/16"
1"	IMFD-322	—	1 7/16"	1½"	⅞"	29/32"	1½"	2¼"
1 1/16"	IMFD-342	—	1 9/16"	1½"	1 5/16"	31/32"	1 9/16"	2 5/16"
1⅛"	IMFD-362	—	1 5/8"	1½"	1"	1 1/32"	1 5/8"	2⅜"
1 3/16"	IMFD-382	—	1 11/16"	1½"	1"	1 3/32"	1 11/16"	2 7/16"
1¼"	IMFD-402	—	1¾"	1 5/8"	1 1/16"	1 5/32"	1 11/16"	2 7/16"
1 5/16"	IMFD-422	—	1⅞"	1 5/8"	1⅛"	1 3/16"	1¾"	2½"

▲ "FLANK DRIVE" FLEXOCKETS

Wrench Size	Square Drive	Stock Number Chrome	Outside Diameter Socket End A	Outside Diameter Handle End B	Broach Depth C	Overall Length D
¼"	E ¼"	TDHU-81	⅜"	½"	7/32"	1 3/16"
5/16"	E ¼"	TDHU-101	29/64"	½"	¼"	1 17/64"
⅜"	E ¼"	TDHU-121	17/32"	½"	9/32"	1 21/64"
7/16"	F ⅜"	FDHU-14	⅝"	1 1/16"	9/32"	1 19/32"
½"	F ⅜"	FDHU-16	23/32"	1 1/16"	5/16"	1 43/64"
9/16"	F ⅜"	FDHU-18	25/32"	1 1/16"	1 1/32"	1¾"

▲ Federal Specs: GGG-W-641D and XWS-2149 apply to items on this page indicated by the symbol ▲.



"FLANK DRIVE" DESIGN AND ADVANTAGES ARE EXPLAINED ON PAGE 5 (WHICH FOLLOWS PAGE 56P)

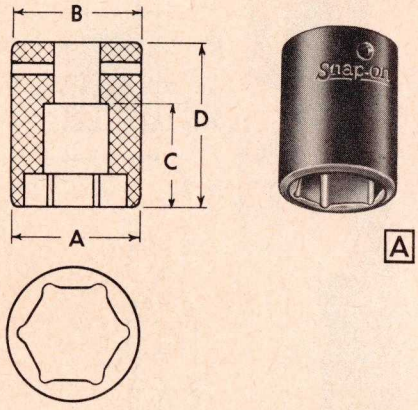
Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS
1/4" Square Drive

For HEXAGON nuts

POWER TYPE

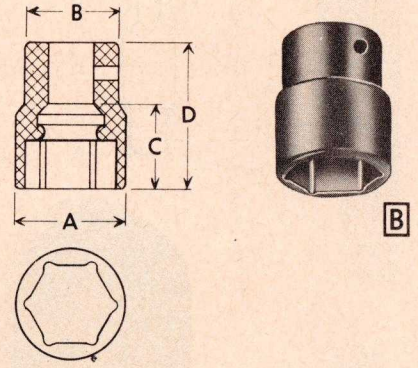
Ⓐ STANDARD LENGTH SOCKETS
FLANK DRIVE



SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/16"	▲GM-6B	23/64"	31/64"	17/32"	1/8"
1/4"	▲GM-8B	7/16"	1/2"	17/32"	1/8"
9/32"	▲GM-9B	31/64"	1/2"	17/32"	1/8"
5/16"	▲GM-10B	1/2"	1/2"	17/32"	1/8"
11/32"	▲GM-11B	1/2"	1/2"	17/32"	1/8"
3/8"	▲GM-12B	9/16"	9/16"	17/32"	1/8"
7/16"	▲GM-14B	5/8"	5/8"	17/32"	1/8"
1/2"	▲GM-16B	11/16"	11/16"	17/32"	1/8"

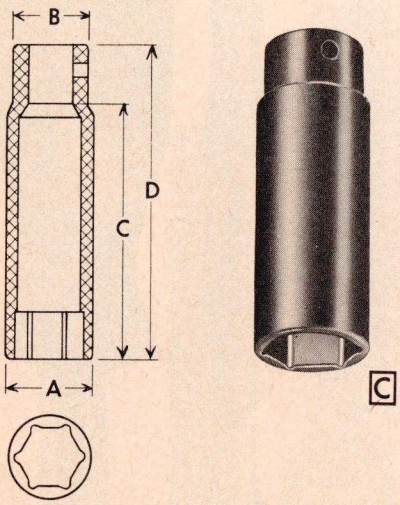
THIN WALL TYPE SOCKETS
FOR HAND OPERATION — NOT RECOMMENDED FOR USE ON POWERED WRENCHES

Ⓑ STANDARD LENGTH SOCKETS
FLANK DRIVE



SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/16"	GTM-6	5/16"	7/16"	17/32"	1/8"
7/32"	GTM-7	11/32"	7/16"	17/32"	1/8"
1/4"	GTM-8	3/8"	7/16"	17/32"	1/8"
9/32"	GTM-9	7/16"	7/16"	17/32"	1/8"
5/16"	GTM-10	15/32"	7/16"	17/32"	1/8"
11/32"	GTM-11	1/2"	1/2"	17/32"	1/8"
3/8"	GTM-12	17/32"	17/32"	17/32"	1/8"
7/16"	GTM-14	5/8"	9/16"	17/32"	1/8"
1/2"	GTM-16	11/16"	19/32"	17/32"	1/8"

Ⓒ BOLT CLEARANCE TYPE SOCKETS
FLANK DRIVE



SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/16"	GSTM-6	5/16"	7/16"	121/32"	2"
7/32"	GSTM-7	11/32"	7/16"	121/32"	2"
1/4"	GSTM-8	25/64"	7/16"	121/32"	2"
9/32"	GSTM-9	7/16"	7/16"	121/32"	2"
5/16"	GSTM-10	15/32"	7/16"	121/32"	2"
11/32"	GSTM-11	1/2"	1/2"	121/32"	2"
3/8"	GSTM-12	9/16"	1/2"	121/32"	2"
7/16"	GSTM-14	5/8"	9/16"	121/32"	2"
1/2"	GSTM-16	11/16"	19/32"	121/32"	2"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.

INDUSTRIAL HANDLES

1/4" Square Drive

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

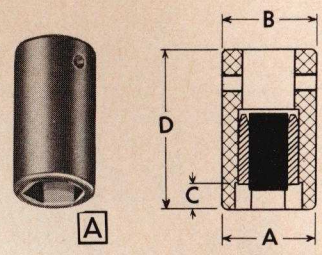
Ⓐ MAGNETIC SOCKETS

Designed Primarily for Self-Tapping Screws

Save 35–45% of your magnetic socket costs. Simply remove magnet from worn socket and insert it in replacement socket blank. Use the special inserting punches to assure correct magnet depth. Punches are shown on page 11P.

SINGLE HEX		Outside Diameter					
Wrench Size	Stock Number	Socket End A	Handle End B	Magnet Depth C	Overall Length D	Repl. Socket Less Mag.	Use Insert. Punch
3/16"	MGM-6B	23/64"	15/32"	5/64"	7/8"		
1/4"	MGM-8C	7/16"	1/2"	3/32"	7/8"	MGM-8C-1	G-932
1/4"	*MGM-8TA	25/64"	1/2"	3/32"	7/8"	MGM-8TA-1	G-932
5/16"	MGM-10C	1/2"	1/2"	3/32"	7/8"	MGM-10C-1	G-931
3/8"	MGM-12C	9/16"	9/16"	1/8"	7/8"	MGM-12C-1	G-930
7/16"	MGM-14C	11/16"	11/16"	9/64"	15/16"	MGM-14C-1	G-930

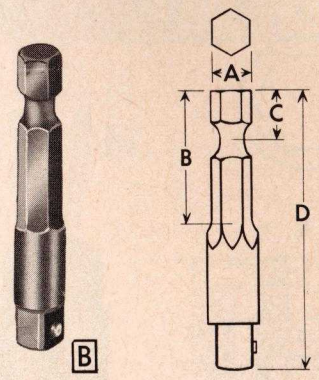
* This socket has a very small nose diameter.



Ⓑ HEXAGON SHANKS

Fit Black and Decker and Van Dorn 1A nut drivers.

Stock Number	Hex End A	Length of Hex B	Recess from End C	Overall Length D
GM-3042A	1/4"	1"	11/32"	2"
GM-3043	1/4"	1"	11/32"	4"
GM-3046	1/4"	1"	11/32"	6"



Ⓒ YANKEE SCREW DRIVER ADAPTORS

Stock Number	Square Drive	Shank Diameter A	Overall Length B	Used on Model No.
GM-1043	1/4"	9/32"	25/16"	130A
GM-1045	1/4"	5/16"	25/16"	31A, 20-3

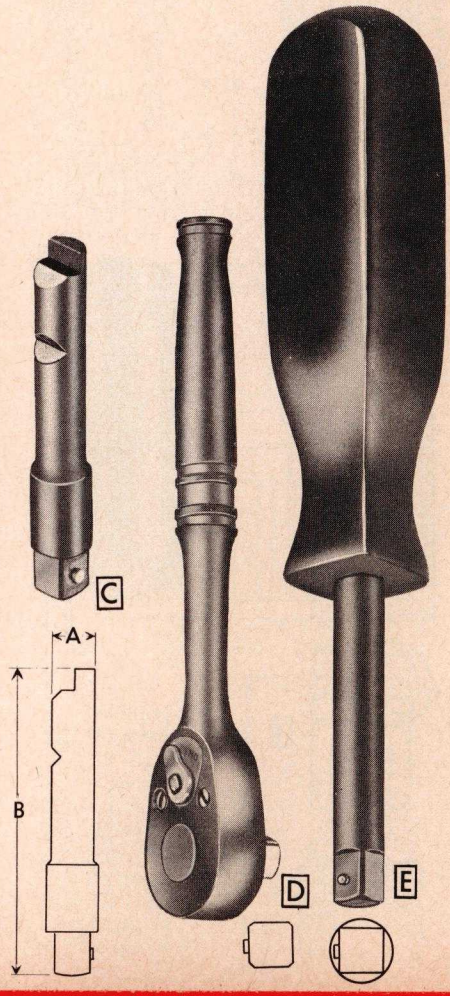
Ⓓ RATCHET

20-Tooth Gear Action

Stock No.	Square Drive	Head Depth	Head Width	Overall Length
GM-70S	1/4"—with friction ball	3/8"	13/16"	4 13/32"
PGM-70S	1/4"—with lock button	3/8"	13/16"	4 13/32"

Ⓔ PLASTIC HANDLE SOCKET DRIVER

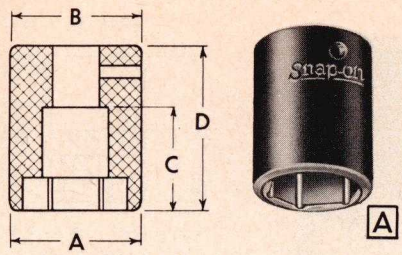
Stock Number	Square Drive	Shank Length	Overall Length
GM-4A	1/4"	2"	5 3/4"

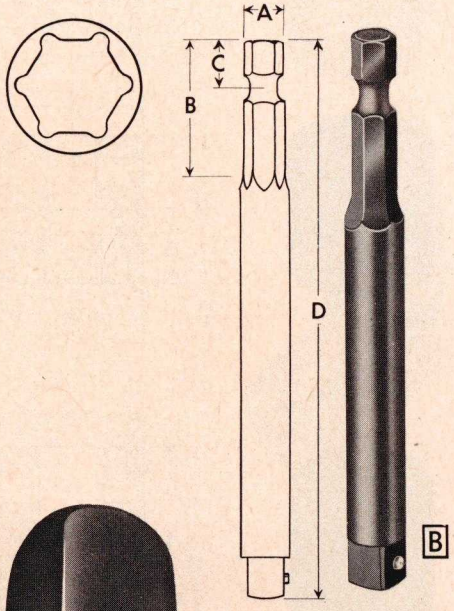


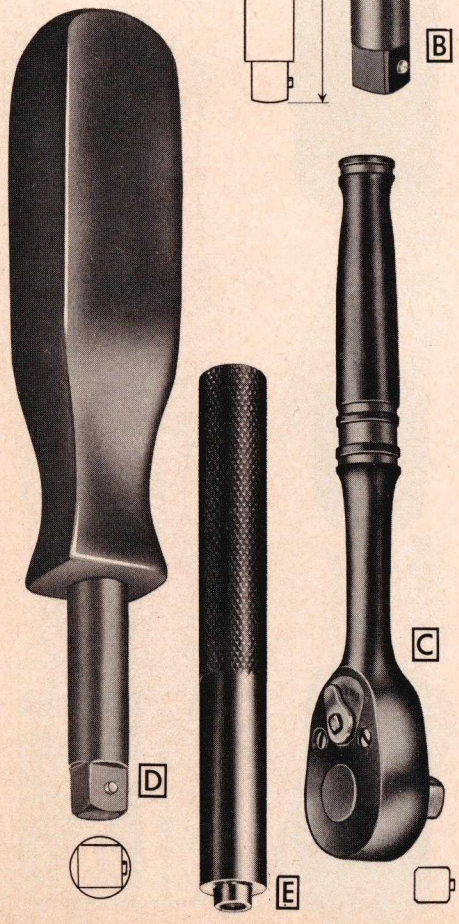
Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS

9/32" Square Drive







For HEXAGON nuts

POWER TYPE

Ⓐ STANDARD LENGTH SOCKETS

FLANK DRIVE

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
1/4"	PM-8B	7/16"	1/2"	1 7/32"	7/8"
5/16"	PM-10B	1/2"	1/2"	1 7/32"	7/8"
11/32"	PM-11B	1/2"	1/2"	1 7/32"	7/8"
3/8"	PM-12B	35/64"	9/16"	1 7/32"	7/8"
7/16"	PM-14B	5/8"	5/8"	1 7/32"	7/8"
1/2"	PM-16B	11/16"	11/16"	1 7/32"	7/8"

Ⓑ HEXAGON SHANKS

Fit Black and Decker, Van Dorn IA and Chicago Pneumatic nut drivers.

Stock Number	Hex End A	Length of Hex B	Recess from End C	Overall Length D
A-3042	1/4"	1"	11/32"	2"
A-3043	1/4"	1"	11/32"	4"

Ⓒ RATCHET

Stock No.	Gear Action	Head Depth	Head Width	Overall Length
PM-70SB	20 Teeth	3/8"	13/16"	4 13/32"

Ⓓ PLASTIC HANDLE SOCKET DRIVER

Stock Number	Square Drive	Shank Length	Overall Length
PM-4AB	9/32"	1 7/16"	5 3/16"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

Ⓔ SPECIAL PUNCHES FOR INSERTING MAGNETS PROPERLY INTO NEW SOCKETS

A money saving feature of our magnetic sockets is that the magnets may be removed from a worn or broken socket and inserted in a replacement socket. This feature can amount to savings as much as fifty per cent of your magnet socket dollar.

To provide speed and convenience, we have designed four special punches for socket magnet replacement work. A raised portion of one end of the punch has a recess, designed to receive the magnet. The outer edge of the raised portion contacts the bushing magnet and provides proper seating of the magnet and the bushing in the socket. The handle end is relieved and especially heat treated to withstand repeated hammer blows.

After driving or pressing the magnet and bushing out of the old socket, they are placed on the proper size assembly punch and inserted into the new socket. Light hammer blows will properly seat them.

These assembly punches make the entire idea of replaceable magnets practical as the punches provide a fast insertion to the correct depth for contact between magnet and self-tapping screw head.

G-929 Assembly Punch — for MFIM-161, MFIM-181 and MPK-181A.

G-930 Assembly Punch — for MGM-12C, MGM-14C, MFIM-121, MSFIM-121, MFIM-141, MPK-141A and MPK-161A.

G-931 Assembly Punch — for MGM-10C, MGM-10TA and MFIM-101.

G-932 Assembly Punch — for MGM-8C and MGM-8TA.

PRINTED IN U.S.A.

INDUSTRIAL SOCKETS

3/8" Square Drive

POWER-IMPACT TYPE

Snap-on® Tools

FOR PRODUCTION AND MAINTENANCE

For HEXAGON nuts

Ⓐ and Ⓑ STANDARD LENGTH SOCKETS

Wrench Size	Stock Numbers		Outside Diameter		Bolt Clearance Depth C	Overall Length D
	Ⓐ DOUBLE HEX	Ⓑ SINGLE HEX	Socket End A	Handle End B		
5/16"		▲PF-100	1/2"	1 1/16"	7/16"	7/8"
1 1/32"		▲PF-110	1 7/32"	1 1/16"	7/16"	7/8"
3/8"	PFDH-120	▲PF-120	9/16"	1 1/16"	7/16"	7/8"
7/16"	PFDH-140	▲PF-140	2 1/32"	3/4"	7/16"	7/8"
1/2"	PFDH-160	▲PF-160	3/4"	3/4"	7/16"	7/8"
9/16"	PFDH-180	▲PF-180	1 3/16"	1 3/16"	7/16"	7/8"
5/8"	PFDH-200	▲PF-200	2 9/32"	2 9/32"	7/16"	7/8"
1 1/16"		▲PF-220	3 1/32"	3 1/32"	9/16"	1"
3/4"		▲PF-240	1 3/64"	1 3/64"	9/16"	1"

205-PFDH Socket Set. Contains one each of the above sizes of double hex sockets PFDH-120 through PFDH-200.

209-PF Socket Set. Contains one each of the above sizes of standard single hex sockets PF-100 through PF-240.

Ⓒ BOLT CLEARANCE LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/8"	▲SPF-120	9/16"	1 1/16"	1 1/16"	1 1/2"
7/16"	▲SPF-140	2 1/32"	3/4"	1 1/16"	1 1/2"
1/2"	▲SPF-160	3/4"	3/4"	1 1/16"	1 1/2"
9/16"	▲SPF-180	1 3/16"	1 3/16"	1 1/16"	1 1/2"
5/8"	▲SPF-200	2 9/32"	1 5/16"	1 1/16"	1 1/2"

Ⓓ SPECIAL SOCKETS FOR SELF-TAPPING SCREWS

SINGLE HEX		Outside Diameter		Depth of Broach C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
5/16"	FIM-100	3 1/64"	1 1/16"	3/16"	7/8"
3/8"	FIM-120	3 7/64"	1 1/16"	7/32"	7/8"
7/16"	FIM-140	2 1/32"	3/4"	1/4"	7/8"
1/2"	FIM-160	3/4"	3/4"	9/32"	7/8"
9/16"	FIM-180	7/16"	5/8"	5/16"	7/8"

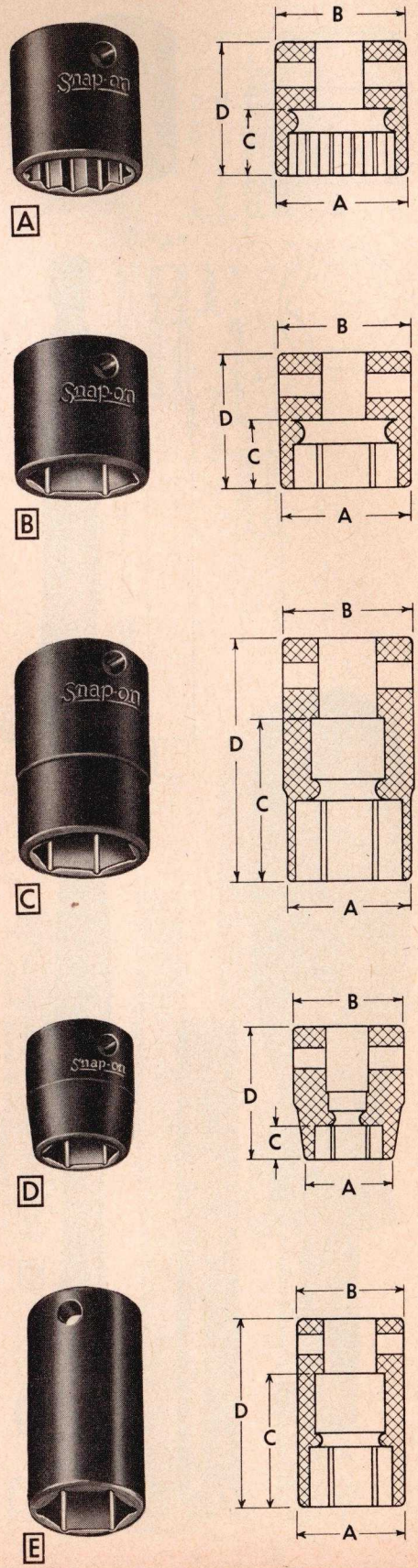
Ⓔ SPECIAL SOCKETS FOR TAPERED HEX NUTS

Specially heat treated alloy steel to withstand wear. Useful in assembly plants for driving tapered hex head nuts in body assembly work — or for other applications where bolt clearance is required.

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/8"	SFIM-120	1 1/16"	5/8"	1 1/16"	1 1/2"
7/16"	SFIM-140	1 1/16"	3/4"	1 1/16"	1 1/2"
1/2"	SFIM-160	3/4"	3/4"	1 1/16"	1 1/2"
9/16"	SFIM-180	1 3/16"	1 3/16"	1 1/16"	1 1/2"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

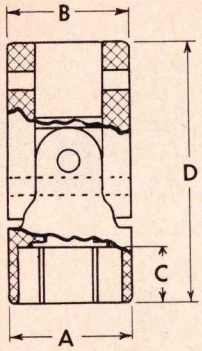


Snap-on® Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS

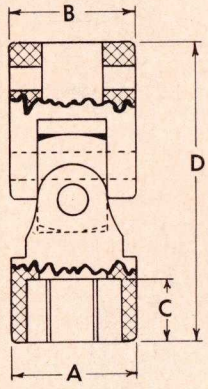
3/8" Square Drive

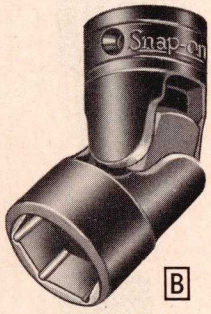
POWER-IMPACT TYPE



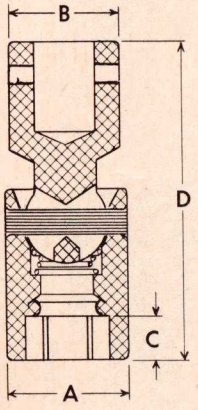


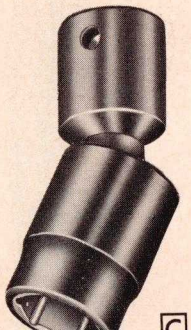
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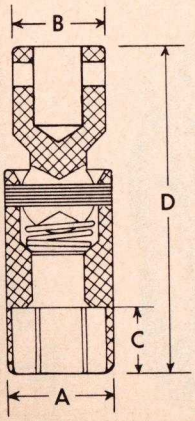


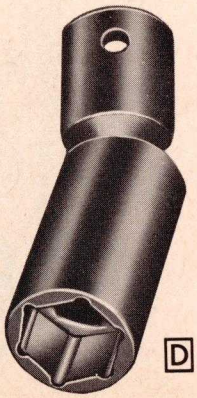
Ⓑ





Ⓒ





Ⓓ

For HEXAGON nuts

Ⓐ SEMI-FLEXOCKETS

FLANK DRIVE

Provide a maximum of 7½ degrees flexible movement

SINGLE HEX		Outside Diameter		Depth of Broach C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
½"	PF-16S	1 1/16"	1 1/16"	5/16"	1 15/32"
9/16"	PF-18S	2 5/32"	2 5/32"	5/16"	1 19/32"

Ⓑ FLEXOCKETS

FLANK DRIVE

SINGLE HEX		Outside Diameter		Depth of Broach C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
7/16"	PFU-14A	5/8"	1 1/16"	9/32"	1 37/64"
½"	PFU-16C	23/32"	1 1/16"	5/16"	1 5/8"
9/16"	PFU-18C	1 3/16"	3/4"	5/16"	1 25/32"
5/8"	PFU-20C	7/8"	3/4"	1 1/32"	1 53/64"

204-PFU Flexocket Set. Contains one each of the above Flexockets. PFU-14A through PFU-20C.

Ⓒ IMPACT-TYPE FLEXOCKETS

FLANK DRIVE

Specially designed and heat treated to withstand use on impact drives. Ball-type construction allows easy movement up to a 30° angle.

SINGLE HEX		Outside Diameter		Depth of Broach C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/8"	▲IMBF-12B	9/16"	3/4"	1 1/32"	2"
7/16"	▲IMBF-14B	9/16"	3/4"	9/32"	2"
½"	▲IMBF-16B	23/32"	3/4"	5/16"	2 1/8"
9/16"	▲IMBF-18B	1 3/16"	3/4"	5/16"	2 1/8"
5/8"	▲IMBF-20B	2 9/32"	3/4"	1 1/32"	2 3/16"
1 1/16"	▲IMBF-22B	3 1/32"	1"	1 3/32"	2 3/8"
3/4"	▲IMBF-24B	1 3/64"	1"	7/16"	2 13/32"

207B-IMBF Impact Flexocket Set. Contains one each of the above Flexockets, IMBF-12B through IMBF-24B.

Ⓓ IMPACT-TYPE DEEP FLEXOCKETS

FLANK DRIVE

The extra depth of these new units provide ample clearance for many automotive uses such as: radiator bolts, tail pipe clamp bolts, heater box bolts, muffler clamp bolts, power brake units, intake and exhaust manifolds, engine mounts, transmission bell housings, shock absorbers, tie rods and caster-camber adjustment bolts (on some automobiles). They also have many industrial applications.

SINGLE HEX		Outside Diameter		Depth of Broach C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/8"	SIMBF-12	1 7/32"	3/4"	1"	2 5/8"
7/16"	SIMBF-14	2 1/32"	3/4"	1"	2 5/8"
½"	SIMBF-16	23/32"	3/4"	1"	2 5/8"
9/16"	SIMBF-18	2 7/32"	3/4"	1"	2 5/8"
5/8"	SIMBF-20	7/8"	3/4"	1"	2 5/8"

205-SIMBF Impact Deep Flexocket Set. Contains one each of the above Flexockets, SIMBF-12 through SIMBF-20.

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

INDUSTRIAL SOCKETS AND ATTACHMENTS
3/8" Square Drive

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

Ⓐ MAGNETIC SOCKETS

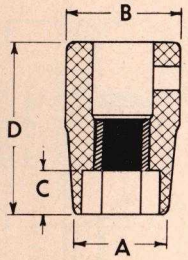
DESIGNED PRIMARILY FOR SELF-TAPPING SCREWS

Save 35–45% of your magnetic socket costs. Simply remove magnet from worn socket and insert it in replacement socket blank. Use the special inserting punches to assure correct magnet depth. Punches are shown on page 11P.

SINGLE HEX		Outside Diameter					
Wrench Size	Stock Number	Socket End A	Handle End B	Magnet Depth C	Overall Length D	Replacement Socket Less Magnet	Use Inserting Punch
5/16"	MFIM-101	15/32"	1 1/16"	3/32"	1 1/16"	MFIM-101-1	G-931
3/8"	MFIM-121	17/32"	1 1/16"	1/8"	1 1/16"	MFIM-121-1	G-930
7/16"	MFIM-141	5/8"	1 1/16"	9/64"	1 1/16"	MFIM-141-1	G-930
1/2"	MFIM-161	23/32"	3/4"	3/32"	1 1/16"	MFIM-161-1	G-929
9/16"	MFIM-181	7/8"	7/8"	5/32"	1 1/16"	MFIM-181-1	G-929



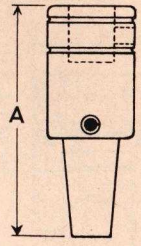
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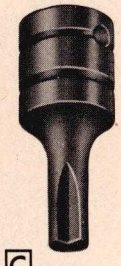


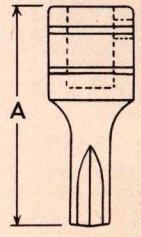
Ⓑ STANDARD TIP SCREW DRIVERS
(Power Type)
3/8" Square Drive

COMPLETE TOOL			REPLACEMENT PARTS	
Stock No.	Tip Size	Overall Length A	Bit Only	Roll Pin Only
PF-23	.031" x 1/4"	1 13/16"	PF-23-2	ESD-300
PF-25A	.048" x 5/16"	1 13/16"	PF-25A-2	ESD-304
PF-31A	.060" x 3/8"	1 27/32"	PF-31A-2	ESD-304


B




C



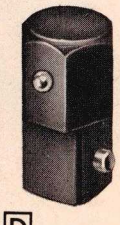


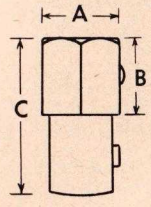
Ⓒ CLUTCH TIP SCREW DRIVER
(Impact Type)

Stock Number	Square Drive	Bit Diameter	Handle End Diameter	Overall Length
GF-30	3/8"	19/64"	3/4"	1 3/4"

Ⓓ SOCKET ADAPTOR

Stock Number	Square Drive	Hexagon Size A	Hexagon Length B	Overall Length C
A-3081A	3/8"	7/16"	5/8"	1 1/16"


D



Ⓔ POWER-FLEX ANGLE DRIVE ATTACHMENT

GA-293 Power-Flex Attachment. Turns your 3/8" square drive impact wrench or a standard "Ferret" handle into a very versatile angle drive unit for those hard-to-reach fittings. You can now turn fasteners at any angle from 0° to 90°. Well rounded housings provide a comfortable grip and the sections swivel independent from each other to provide maximum flexibility.

Friction-free ball bearing construction provides maximum efficiency with little power loss. Housing diameter is only 1 7/16", maximum overall length is 4 7/16" — really compact to get into narrow openings. Chrome plated finish.


E



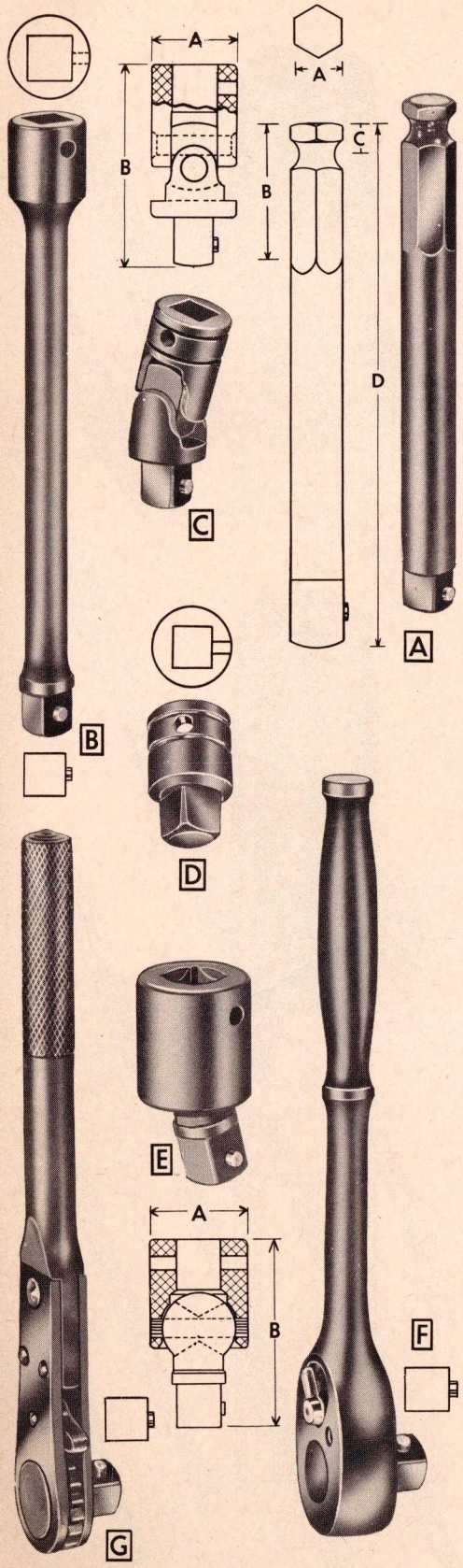


Snap-on Tools

SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES AND ATTACHMENTS

3/8" Square Drive



Ⓐ HEXAGON POWER SHANKS

Fitted with locking button

Fit Black and Decker and Chicago Pneumatic nut drivers.

Stock Number	Hex End A	Length of Hex B	Recess from End C	Overall Length D
A-3001A	7/16"	1 1/4"	1/4"	2 3/4"
A-3002A	7/16"	1 1/4"	1/4"	5"
A-3003B	7/16"	1 1/4"	1/4"	1 1/4"
A-3017A	7/16"	1 1/4"	1/4"	1 9/16"

Ⓑ POWER EXTENSION BARS

Fitted with locking button

Stock Number	Square Drive	Shank Diameter	Overall Length
▲PF-2	3/8"	7/16"	3"
▲PF-6	3/8"	7/16"	6"
▲PF-11	3/8"	7/16"	12"

Ⓒ POWER UNIVERSAL JOINTS

Fitted with locking button

Stock Number	Square Drive	Outside Diameter A	Overall Length B
PFU-8A	3/8"	3/4"	1 55/64"

Ⓓ HANDLE-SOCKET ADAPTORS

Fitted with locking button

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲PA-2	3/8"	1/2"	11/16"	1 5/16"
▲PA-4	1/2"	3/8"	1 5/16"	1 15/32"

Ⓔ IMPACT BALL-TYPE UNIVERSAL JOINT

Fitted with locking button

Stock Number	Square Drive	Outside Diameter A	Overall Length B
▲IMBF-80	3/8"	7/8"	1 41/64"

RATCHETS

Fitted with locking button

Stock No.	Gear Action	Head Depth	Head Width	Overall Length
Ⓕ PF-70R	20 Teeth	9/16"	1 1/8"	6 15/16"
Ⓖ PF-87	20 Teeth	3/8"	1 5/16"	6 1/2"

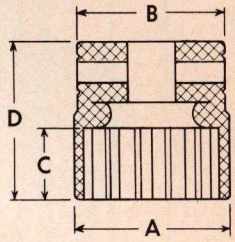
▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.

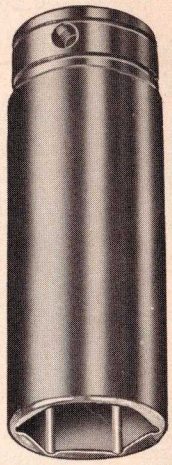
INDUSTRIAL SOCKETS
3/8" Square Drive
THIN WALL TYPE—BLACK FINISH

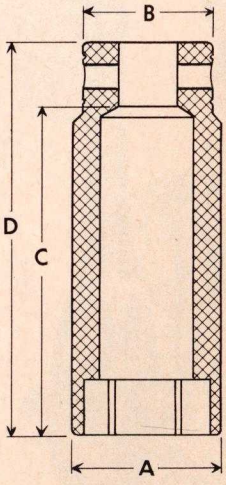
Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

These sockets are designed for use with the 3/8" drive handles listed on Pages 15P and 17P or with 3/8" drive impact wrenches. They are not intended for use on powered nut setters . . . the sockets on Page 12P should be used for this purpose.


A




B



For HEXAGON nuts

Ⓐ STANDARD LENGTH SOCKETS
FLANK DRIVE

DOUBLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
*1/4"	GFS-081	25/64"	21/32"	7/16"	29/32"
*5/16"	GFS-101	29/64"	21/32"	7/16"	29/32"
3/8"	GF-121	17/32"	21/32"	7/16"	29/32"
7/16"	GF-141	5/8"	21/32"	7/16"	29/32"
1/2"	GF-161	23/32"	21/32"	1/2"	15/16"
9/16"	GF-181	25/32"	11/16"	1/2"	15/16"
5/8"	GF-201	27/32"	49/64"	9/16"	1"
11/16"	GF-221	59/64"	27/32"	5/8"	1 1/16"
3/4"	GF-241	1"	29/32"	5/8"	1 1/16"
13/16"	GF-261	1 5/64"	31/32"	11/16"	1 1/8"
7/8"	GF-281	1 5/32"	1 1/16"	11/16"	1 1/8"

* Note: GFS-081 and GFS-101 are Single Hex.

211-GF Socket Set. Contains one each of the above sizes of standard length sockets GFS-081 through GF-281.

219-GF Set. Contains one each of all sockets listed above and all handles listed on opposite page, except GF-71D and GF-71M.

219-GF-B Set. Above set in KRA-281 Metal Case.

Ⓑ BOLT CLEARANCE LENGTH SOCKETS
FLANK DRIVE

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
1/4"	GSFS-081	25/64"	11/16"	1 11/16"	2 1/8"
5/16"	GSFS-101	29/64"	11/16"	1 11/16"	2 1/8"
3/8"	GSFS-121	17/32"	21/32"	1 11/16"	2 1/8"
7/16"	GSFS-141	39/64"	21/32"	1 11/16"	2 1/8"
1/2"	GSFS-161	23/32"	43/64"	1 11/16"	2 1/8"
9/16"	GSFS-181	25/32"	23/32"	1 15/16"	2 3/8"
5/8"	GSFS-201	27/32"	51/64"	1 15/16"	2 3/8"
11/16"	GSFS-221	15/16"	7/8"	2 3/16"	2 5/8"
3/4"	GSFS-241	1"	61/64"	2 3/16"	2 5/8"
13/16"	GSFS-261	1 1/16"	1"	2 5/16"	2 3/4"
7/8"	GSFS-281	1 1/32"	1 1/32"	2 5/16"	2 3/4"

211-GSFS Socket Set. Contains one each of the above sockets GSFS-081 through GSFS-281.

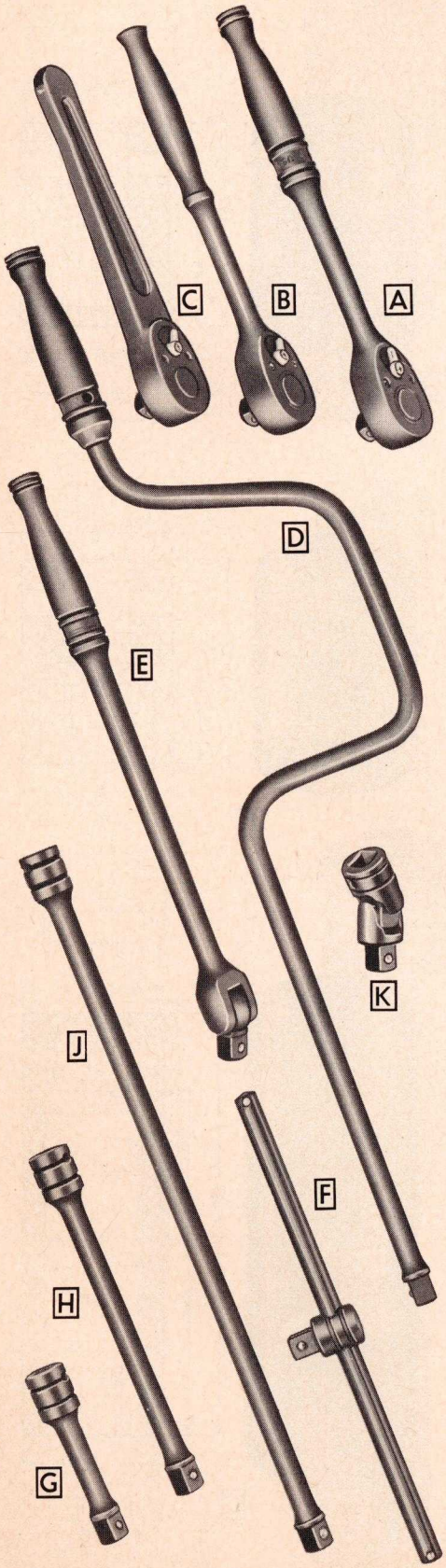
NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES

3/8" Square Drive

SPRING AND BALL LOCKING DEVICE



The handles shown on this page are standard units for hand operation only. All are equipped with the spring and ball type of locking device and all have a black finish.

RATCHETS

Stock Number	Gear Action	Head Depth	Head Width	Overall Length
A GF-71D	30 Teeth	9/16"	1 1/8"	7 9/16"
B GF-70R	20 Teeth	9/16"	1 1/8"	7 9/16"
C GF-71M	20 Teeth	9/16"	1 1/8"	6 1/8"

D SPEEDER

Stock Number	Shank Diameter	Shank Length	Sweep Radius	Overall Length
GF-4LA	3/8"	8"	3 1/2"	17 5/8"

E NUT SPINNER

Stock Number	Handle Diameter	Head Width	Overall Length
GF-10M	7/16"	2 7/32"	9 9/16"

F SLIDING BAR

Stock Number	Handle Diameter	Head Depth	Overall Length
GF-5L	13/32"	3/4"	8"

EXTENSION BARS

Stock Number	Shank Diameter	Overall Length
G GFX-2	13/32"	3"
H GFX-6	13/32"	6"
J GFX-11	13/32"	12"

K UNIVERSAL JOINT

Stock Number	Outside Diameter	Overall Length
GFU-8A	3/4"	1 59/64"

INDUSTRIAL SOCKETS

1/2" Square Drive

POWER-IMPACT TYPE

Snap-on® Tools

FOR PRODUCTION AND MAINTENANCE

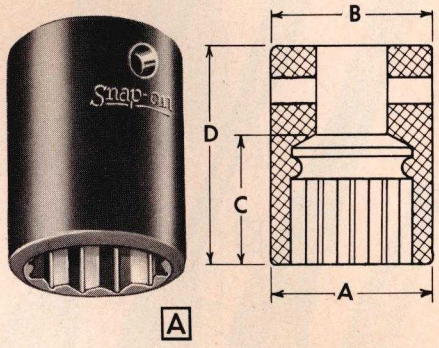
For HEXAGON nuts

FLANK DRIVE

Ⓐ STANDARD LENGTH DOUBLE HEX SOCKETS

Wrench Size	Stock Number POWER TYPE	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
7/16"	PDH-140	1 1/16"	7/8"	7/8"	1 1/2"
1/2"	PDH-160	25/32"	15/16"	7/8"	1 1/2"
9/16"	PDH-180	7/8"	15/16"	7/8"	1 1/2"
5/8"	PDH-200	61/64"	1"	7/8"	1 1/2"
11/16"	PDH-220	1 1/64"	1 1/16"	7/8"	1 1/2"
3/4"	PDH-240	1 1/8"	1 1/8"	7/8"	1 1/2"
7/8"	PDH-280	1 5/16"	1 5/16"	7/8"	1 1/2"

Impact series and Power series are identical in size and appearance. Impact sockets are heat treated to withstand powered impact use. Power sockets are intended for use on clutch type nut runners.

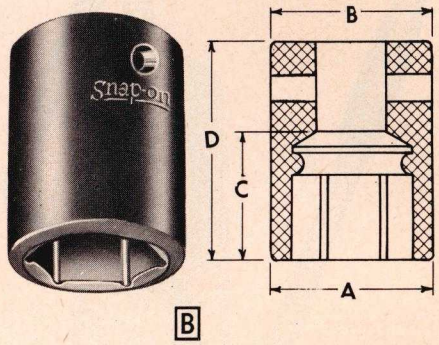


Ⓐ

Ⓑ STANDARD LENGTH SINGLE HEX SOCKETS

FLANK DRIVE

Wrench Size	Stock Number IMPACT TYPE	Stock Number POWER TYPE	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
3/8"	▲IM-120	▲P-120	39/64"	7/8"	7/8"	1 1/2"
7/16"	▲IM-140	▲P-140	1 1/16"	7/8"	7/8"	1 1/2"
1/2"	▲IM-160	▲P-160	25/32"	15/16"	7/8"	1 1/2"
9/16"	▲IM-180	▲P-180	7/8"	15/16"	7/8"	1 1/2"
5/8"	▲IM-200	▲P-200	61/64"	1"	7/8"	1 1/2"
11/16"	▲IM-220	▲P-220	1 1/64"	1 1/16"	7/8"	1 1/2"
3/4"	▲IM-240	▲P-240	1 1/8"	1 1/8"	7/8"	1 1/2"
13/16"	▲IM-260	▲P-260	1 1/4"	1 1/4"	7/8"	1 1/2"
7/8"	▲IM-280	▲P-280	1 5/16"	1 5/16"	7/8"	1 1/2"
15/16"	▲IM-300	▲P-300½	1 3/8"	1 3/8"	1 1/4"	1 3/4"
1"	▲IM-320	▲P-320½	1 7/16"	1 7/16"	1 1/4"	1 3/4"
1 1/16"	▲IM-340	▲P-340½	1 9/16"	1 9/16"	1 3/8"	2"
1 1/8"	▲IM-360	———	1 5/8"	1 5/8"	1 3/8"	2"
1 3/16"	IM-380	———	1 11/16"	1 11/16"	1 3/8"	2"
1 1/4"	▲IM-400	———	1 3/4"	1 3/4"	1 3/8"	2"
1 5/16"	IM-420H	———	1 7/8"	1 7/8"	1 3/8"	2"



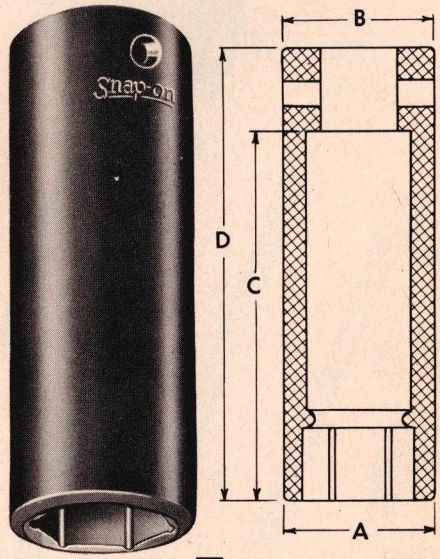
Ⓑ

306-IM-T Socket Set. IM-160, IM-180, IM-200, IM-220, IM-240, IM-260, in KTA-241 metal tray.
316-IM Socket Set. Contains sixteen sockets, IM-120 through IM-420H.

Ⓒ BOLT CLEARANCE SINGLE HEX SOCKETS

FLANK DRIVE

Wrench Size	Stock Number IMPACT TYPE	Stock Number POWER TYPE	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
3/8"	▲SIM-120	▲SP-120	5/8"	7/8"	2 5/8"	3 1/4"
7/16"	▲SIM-140	▲SP-140	1 1/16"	7/8"	2 5/8"	3 1/4"
1/2"	▲SIM-160	▲SP-160	25/32"	15/16"	2 5/8"	3 1/4"
9/16"	▲SIM-180	▲SP-180	7/8"	15/16"	2 5/8"	3 1/4"
5/8"	▲SIM-200	▲SP-200	61/64"	1"	2 5/8"	3 1/4"
11/16"	▲SIM-220	▲SP-220	1 1/16"	1 1/16"	2 5/8"	3 1/4"
3/4"	▲SIM-240	▲SP-240	1 1/8"	1 1/8"	2 5/8"	3 1/4"
13/16"	▲SIM-260	▲SP-260	1 1/4"	1 1/4"	2 5/8"	3 1/4"
7/8"	▲SIM-280	▲SP-280	1 5/16"	1 5/16"	2 7/8"	3 1/2"
15/16"	▲SIM-300	▲SP-300½	1 3/8"	1 3/8"	2 7/8"	3 1/2"
1"	▲SIM-320	▲SP-320½	1 7/16"	1 7/16"	2 7/8"	3 1/2"



Ⓒ

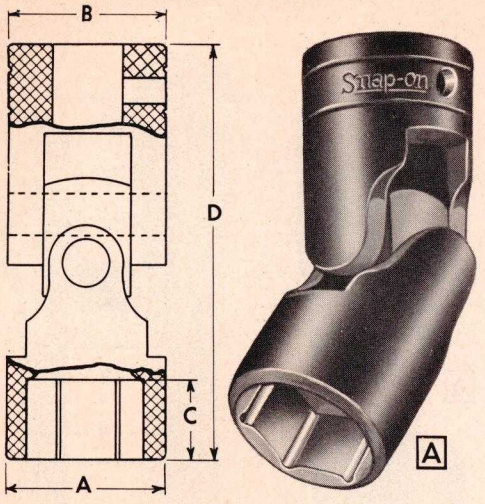
311-SIM-T Socket Set. Eleven sockets SIM-120 through SIM-320, in KTA-240A Tray.
311-SIM Set. Above set without tray.

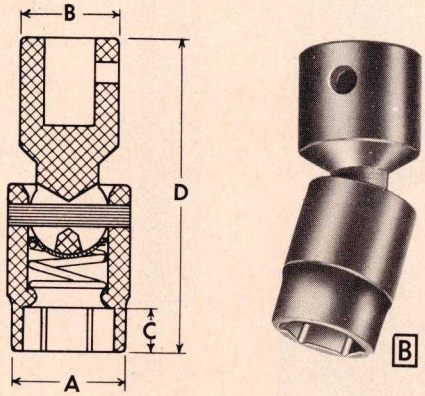
NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

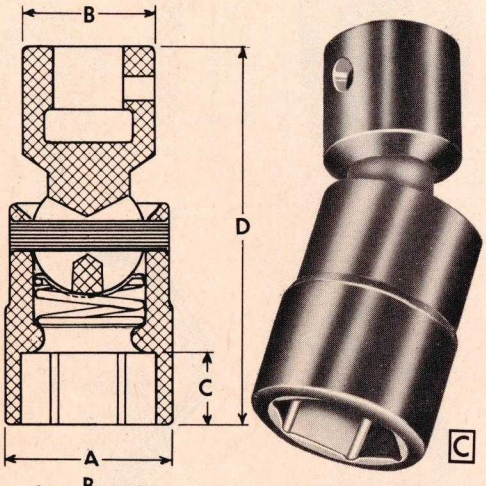
▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.

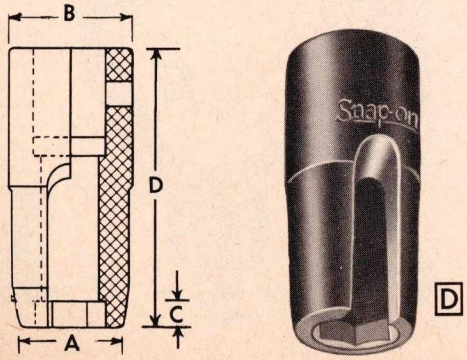
Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS
1/2" Square Drive









For HEXAGON nuts

Ⓐ POWER-TYPE FLEXOCKETS
FLANK DRIVE

SINGLE HEX		Outside Diameter		Depth of Broach	Overall Length
Wrench Size	Stock Number	Socket End A	Handle End B	C	D
1/2"	PU-16	3/4"	1 5/16"	5/16"	2 3/8"
9/16"	PU-18	2 7/32"	1 5/16"	1 1/32"	2 7/16"
5/8"	PU-20	1 5/16"	1 5/16"	3/8"	2 15/32"
1 1/16"	PU-22	1 3/64"	1 3/64"	7/16"	2 1/2"
3/4"	PU-24	1 3/32"	1 1/8"	1/2"	2 3/4"

Ⓑ THIN-WALL BALL-TYPE FLEXOCKETS
FLANK DRIVE

Wall thickness of the sockets is 7/64", thin enough for very tight quarters. Socket ends are tapered to provide maximum clearance.

SINGLE HEX		Outside Diameter		Depth of Broach	Overall Length
Wrench Size	Stock Number	Socket End A	Handle End B	C	D
7/16"	IMBL-140A	5/8"	1 5/16"	9/32"	2 1/8"
1/2"	IMBL-160A	23/32"	1 5/16"	5/16"	2 1/8"
9/16"	IMBL-180A	1 3/16"	1 5/16"	5/16"	2 1/8"
5/8"	IMBL-200A	7/8"	1 5/16"	1 1/32"	2 17/64"
1 1/16"	IMBL-220A	31/32"	1"	1 3/32"	2 29/64"
3/4"	IMBL-240A	1 3/64"	1"	7/16"	2 31/64"

306-IMBL Flexocket Set. Contains one each of above Ball-Type Flexockets.

Ⓒ IMPACT-TYPE FLEXOCKETS
FLANK DRIVE

Specially designed and heat treated to withstand use on impact drivers. Ball-type construction allows easy movement up to a 30° angle.

SINGLE HEX		Outside Diameter		Depth of Broach	Overall Length
Wrench Size	Stock Number	Socket End A	Handle End B	C	D
1/2"	▲IMB-160B	3/4"	1"	5/16"	2 5/16"
9/16"	▲IMB-180B	2 7/32"	1"	1 1/32"	2 5/16"
5/8"	▲IMB-200B	2 9/32"	1"	3/8"	2 7/16"
1 1/16"	▲IMB-220B	1 1/16"	1"	7/16"	2 21/32"
3/4"	▲IMB-240B	1 3/32"	1"	1/2"	2 11/16"
1 3/16"	▲IMB-260B	1 3/16"	1"	9/16"	2 13/16"
7/8"	▲IMB-280B	1 1/4"	1"	9/16"	2 13/16"
1 5/16"	▲IMB-300B	1 5/16"	1"	5/8"	2 7/8"
1"	▲IMB-320B	1 3/8"	1"	1 1/16"	2 15/16"

309B-IMB Impact Flexocket Set. Contains one each of the above sizes of Flexockets, IMB-160B through IMB-320B.

Ⓓ ZERK GREASE FITTING SOCKET

		Outside Diameter		Depth of Broach	Overall Length
Wrench Size	Stock Number	Socket End A	Handle End B	C	D
7/16"	N-36	2 7/32"	7/8"	3/16"	1 31/32"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

INDUSTRIAL SOCKETS
1/2" Square Drive

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

Ⓐ MAGNETIC SOCKETS

DESIGNED PRIMARILY FOR SELF-TAPPING SCREWS

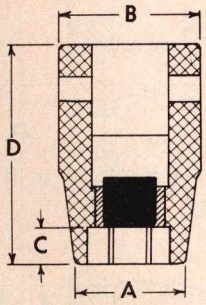
FLANK DRIVE

Save 35–45% of your magnetic socket costs. Simply remove magnet from worn socket and insert it in replacement socket blank. Use the special inserting punches to assure correct magnet depth. Punches are shown on page 7P.

SINGLE HEX		Outside Diameter					
Wrench Size	Stock Number	Socket End A	Handle End B	Magnet Depth C	Overall Length D	Repl. Socket Less Mag.	Use Insert. Punch
7/16"	MPK-141A	1 1/16"	7/8"	9/64"	1 1/2"	MPK-141-A-1	G-930
1/2"	MPK-161A	25/32"	1 5/16"	5/32"	1 1/2"	MPK-161-A-1	G-930
9/16"	MPK-181A	45/64"	7/8"	5/32"	1 1/2"	MPK-181-A-1	G-929



A



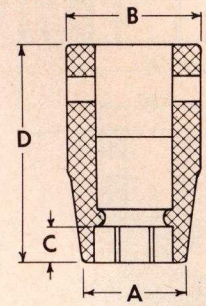
Ⓑ SPECIAL SOCKETS FOR SELF-TAPPING SCREWS

FLANK DRIVE

SINGLE HEX		Outside Diameter			
Wrench Size	Stock Number	Socket End A	Handle End B	Depth of Broach C	Overall Length D
3/8"	PK-121	5/8"	7/8"	7/32"	1 1/2"
7/16"	PK-141	45/64"	7/8"	7/32"	1 1/2"
1/2"	PK-161	25/32"	1 5/16"	1/4"	1 1/2"
9/16"	PK-181	7/8"	1 5/16"	11/32"	1 1/2"



B



304-PK Socket Set. Contains four self-tapping screw sockets PK-121 through PK-181.

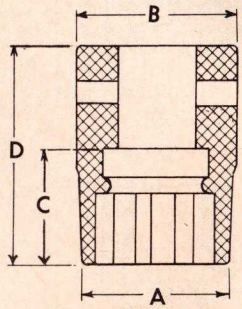
For SQUARE nuts

Ⓒ STANDARD LENGTH SOCKETS

DOUBLE SQUARE		Outside Diameter			
Wrench Size	Stock Number	Socket End A	Handle End B	Bolt Clearance Depth C	Overall Length D
3/8"	▲P-412	23/32"	7/8"	7/8"	1 1/2"
7/16"	▲P-414	1 3/16"	1 5/16"	7/8"	1 1/2"
1/2"	▲P-416	29/32"	1"	7/8"	1 1/2"
9/16"	▲P-418	1"	1 1/8"	7/8"	1 1/2"
5/8"	▲P-420	1 7/64"	1 3/16"	7/8"	1 1/2"
11/16"	▲P-422	1 13/64"	1 1/4"	7/8"	1 1/2"
3/4"	▲P-424	1 5/16"	1 3/8"	7/8"	1 1/2"
13/16"	▲P-426	1 7/16"	1 7/16"	7/8"	1 1/2"
7/8"	▲P-428	1 1/2"	1 9/16"	7/8"	1 1/2"
1"	▲P-432	1 23/32"	1 3/4"	1 1/8"	1 3/4"



C

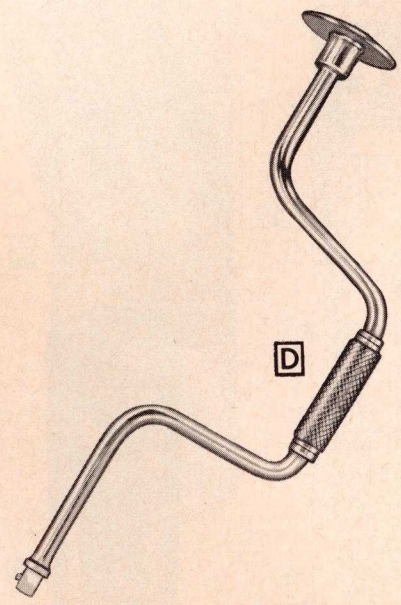


310-P Socket Set. Contains one each of the above sizes of square sockets, P-412 through P-432.

Ⓓ SPEEDER HANDLES

Fitted with locking button

Stock Number	Square Drive	Shank Diameter	Shank Length	Overall Length	Sweep Radius
A-2004	1/2"	1/2"	10 15/16"	20 3/8"	4 1/8"



D

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

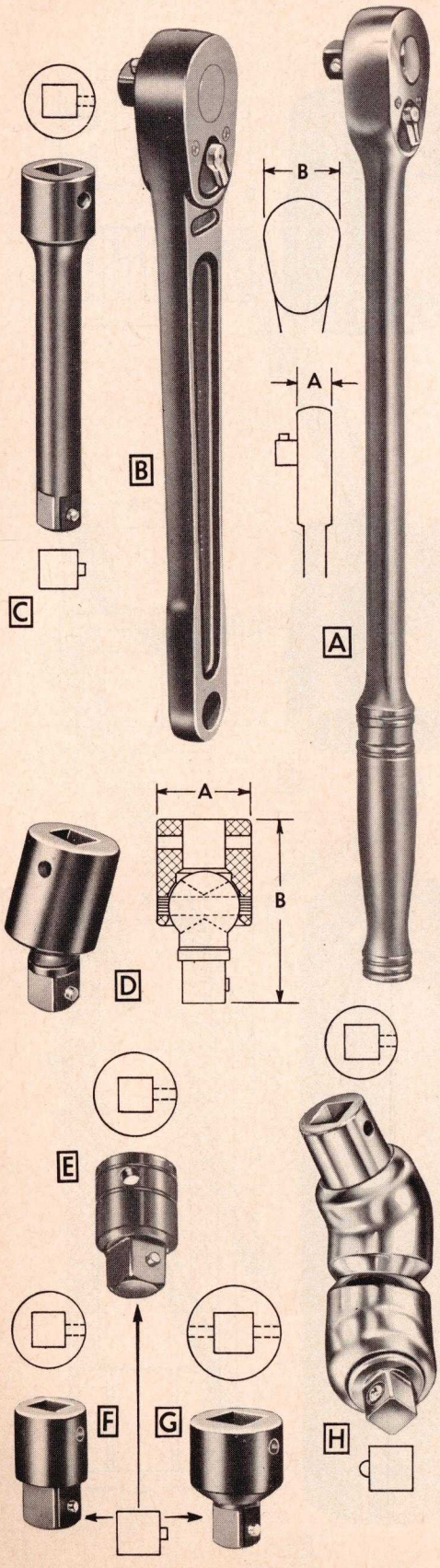
▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES

1/2" Square Drive

FITTED WITH LOCKING BUTTON



RATCHETS

Fitted with locking button

Stock No.	Gear Action	Head Width B	Head Depth A	Overall Length
A GL-715	32 Teeth	1 5/8"	2 5/32"	15"
B PS-71	24 Teeth	1 23/32"	3/4"	9 3/4"

PS-71 Ratchet meets Federal Spec., GGG-W-641D.

© POWER EXTENSION BARS

Fitted with locking button

Stock Number	Square Drive	Shank Diameter	Overall Length
▲PS-2	1/2"	21/32"	2"
▲PS-6	1/2"	5/8"	5"
▲PS-12	1/2"	5/8"	10"

Ⓓ IMPACT BALL-TYPE UNIVERSAL JOINT

Fitted with locking button

Stock Number	Square Drive	Outside Diameter A	Overall Length B
▲IMB-80	1/2"	1 3/16"	2 9/32"

POWER SOCKET—HANDLE ADAPTOR

Fitted with locking button

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲E PA-2	3/8"	1/2"	1 1/16"	1 5/16"
▲E PA-4	1/2"	3/8"	1 5/16"	1 15/32"
▲F PHD-1	1/2"	5/8"	1"	1 5/8"
▲G PHD-2	5/8"	1/2"	1 1/4"	1 25/32"

Ⓗ POWER-FLEX ANGLE DRIVE UNIT

GA-290 Power Flex Unit. This extremely handy attachment turns your 1/2" Square drive Air or Electric Impact Wrench into a versatile angle drive tool for hard-to-reach fasteners in limited access areas. Turns nuts, bolts, cap screws, etc., at any angle up to 90° — can be used as a 1 1/4" offset drive attachment. Well rounded housings provide a comfortable grip and the two sections swivel independently from each other to give maximum flexibility. Ball bearing operation. Housing is 1 7/16" diameter, maximum length 4 7/16".

▲ Federal Specs: GGG-W-660 applies to all items on this page as indicated by symbol ▲.

INDUSTRIAL SOCKETS
1/2" Square Drive
THIN WALL TYPE—BLACK FINISH

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

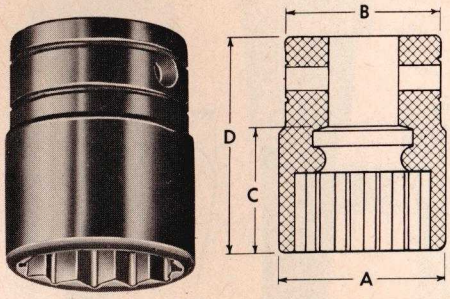
These sockets are designed for use with the manual type handles shown on Pages 21P and 23P. Sockets shown on Page 18P should be used on powered impact wrenches and nut setters.

For HEXAGON nuts

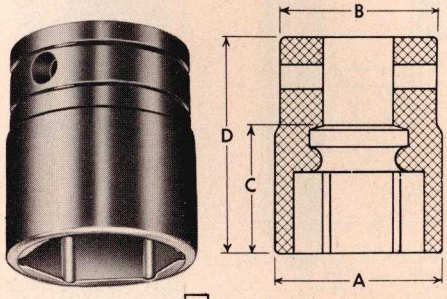
Ⓐ and Ⓑ STANDARD LENGTH SOCKETS

FLANK DRIVE

Wrench Size	Stock Number Ⓐ DOUBLE HEX	Stock Number Ⓑ SINGLE HEX	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
3/8"	GSW-121	GTW-121	9/16"	7/8"	7/8"	1 1/2"
7/16"	GSW-141	GTW-141	41/64"	7/8"	7/8"	1 1/2"
1/2"	GSW-161	GTW-161	23/32"	7/8"	7/8"	1 1/2"
9/16"	GSW-181	GTW-181	51/64"	7/8"	7/8"	1 1/2"
5/8"	GSW-201	GTW-201	29/32"	7/8"	7/8"	1 1/2"
11/16"	GSW-221	GTW-221	31/32"	29/32"	7/8"	1 1/2"
3/4"	GSW-241	GTW-241	1 3/64"	31/32"	7/8"	1 1/2"
13/16"	GSW-261	GTW-261	1 1/8"	1 1/16"	7/8"	1 1/2"
7/8"	GSW-281	GTW-281	1 3/16"	1 1/8"	7/8"	1 1/2"
15/16"	GSW-301	GTW-301	1 9/32"	1 3/16"	7/8"	1 1/2"
1"	GSW-321	GTW-321	1 11/32"	1 1/4"	7/8"	1 1/2"
1 1/16"	GSW-341	GTW-341	1 7/16"	1 3/8"	1"	1 5/8"
1 1/8"	GSW-361	GTW-361	1 1/2"	1 7/16"	1 1/8"	1 3/4"
1 3/16"	GSW-381	—	1 5/8"	1 9/16"	1 1/8"	1 3/4"
1 1/4"	GSW-401	GTW-401	1 11/16"	1 5/8"	1 1/4"	1 7/8"
1 5/16"	GSW-421	—	1 1/4"	1 3/4"	1 11/16"	1 7/8"



Ⓐ

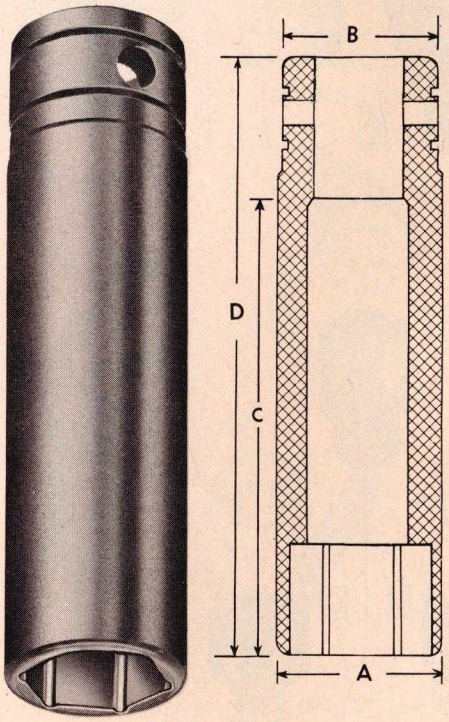


Ⓑ

Ⓒ BOLT CLEARANCE SOCKET

FLANK DRIVE

SINGLE HEX Wrench Size	SINGLE HEX Stock Number	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
1/2"	GTS-161	47/64"	7/8"	2 5/8"	3 1/4"
9/16"	GTS-181	13/16"	7/8"	2 5/8"	3 1/4"
5/8"	GTS-201	57/64"	7/8"	2 5/8"	3 1/4"
11/16"	GTS-221	31/32"	29/32"	2 5/8"	3 1/4"
3/4"	GTS-241	1 1/32"	31/32"	2 5/8"	3 1/4"

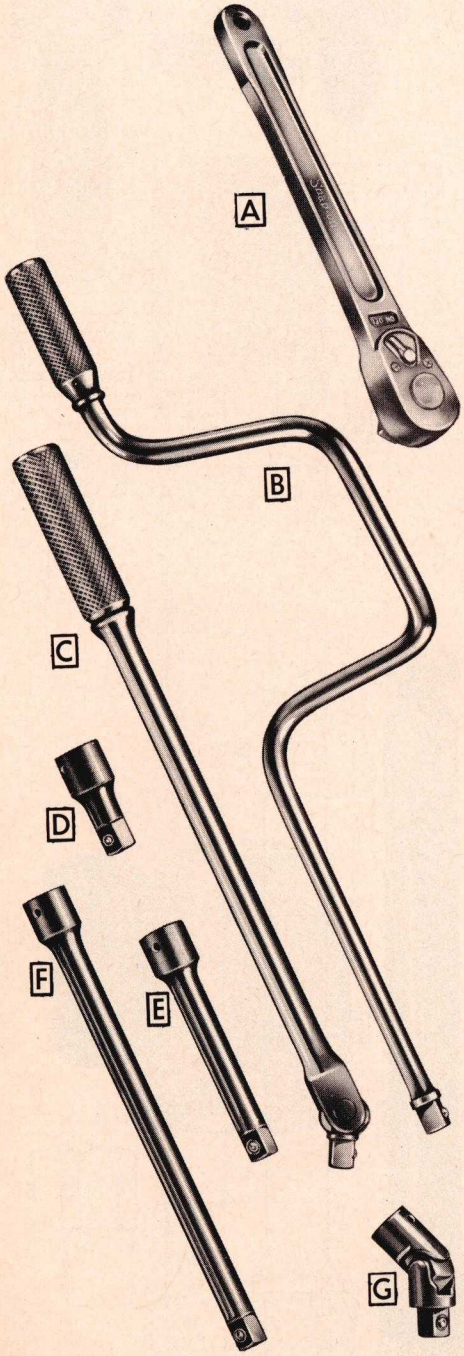


Ⓒ

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES
1/2" Square Drive
SPRING AND BALL LOCKING DEVICE



The handles shown on this page are standard units for hand operation only. All are equipped with the spring and ball type of locking device and all have a black finish.

Ⓐ RATCHET

Stock Number	Gear Action	Head Depth	Head Width	Overall Length
GS-71	24 Teeth	3/4"	1 21/32"	9 5/8"

Above ratchet meets Federal Spec. GGG-W-641D.

Ⓑ SPEEDER

Stock Number	Shank Diameter	Shank Length	Sweep Radius	Overall Length
KB-4	1/2"	8 7/16"	4 1/8"	18 3/4"

Ⓒ NUT SPINNER

Stock Number	Handle Diameter	Head Width	Overall Length
GS-15B	5/8"	1 1/8"	15"

EXTENSION BARS

Stock Number	Shank Diameter	Overall Length
Ⓓ GS-3	5/8"	2"
Ⓔ GS-6	5/8"	5"
Ⓕ GS-12	5/8"	10"

Ⓖ UNIVERSAL JOINT

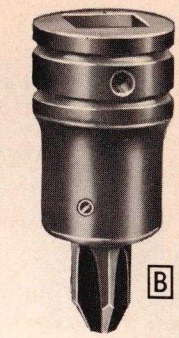
Stock Number	Outside Diameter	Overall Length
GU-8	1 5/16"	2 1/16"

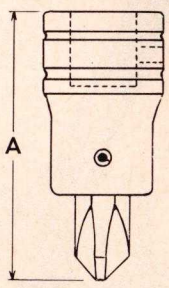
INDUSTRIAL SOCKETS
ATTACHMENTS
1/2" Square Drive

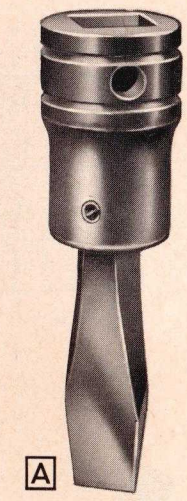
Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

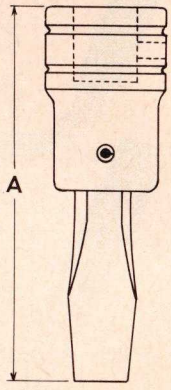
Ⓐ STANDARD TIP SCREW DRIVERS
(Power Type)
1/2" Square Drive

COMPLETE TOOL			REPLACEMENT PARTS	
Stock No.	Tip Size	Overall Length A	Bit Only	Roll Pin Only
PSW-284A	.050" x 7/16"	3"	PSW-284A-2	ESD-310
PSW-325A	.075" x 1/2"	3"	PSW-325A-2	ESD-310







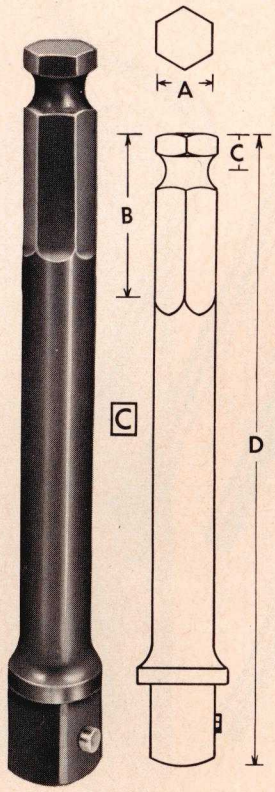


Ⓑ PHILLIPS TIP SCREW DRIVERS
(Power Type)
1/2" Square Drive

COMPLETE TOOL			REPLACEMENT PARTS	
Stock No.	Phillips Bit Size	Overall Length A	Bit Only	Roll Pin Only
PSP-32A	3	2 1/8"	PSP-32A-2	ESD-310
PSP-42A	4	2 1/8"	PSP-42A-2	ESD-310

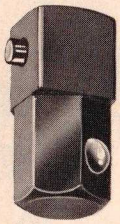
Ⓒ HEXAGON POWER SHANKS
Units with 7/16" hex end fit Independent Pneumatic drivers and units with 5/8" hex fit Black and Decker and Chicago Pneumatic drivers.

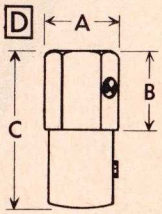
Stock Number	Hex End A	Length of Hex B	Recess from End C	Overall Length D
A-3011A	7/16"	1 1/4"	1/4"	2 3/4"
A-3012A	7/16"	1 1/4"	1/4"	5"
A-3013A	7/16"	1 1/4"	1/4"	8"
A-3018A	7/16"	1 1/4"	1/4"	11 5/16"
A-3021A	5/8"	2 1/8"	5/16"	2 3/4"
A-3022A	5/8"	1 3/4"	5/16"	5"



Ⓓ SOCKET ADAPTORS

Stock Number	Square Drive	Hexagon Size A	Hexagon Length B	Overall Length C
A-3072A	1/2"	1/2"	5/8"	1 1/4"
A-3073A	1/2"	9/16"	5/8"	1 1/4"
A-3074A	1/2"	5/8"	5/8"	1 1/4"





Snap-on Tools
SERVING INDUSTRY EVERYWHERE

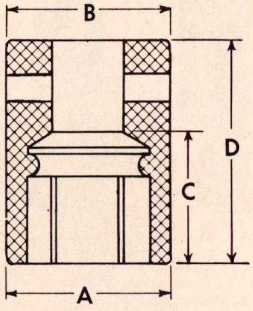
INDUSTRIAL SOCKETS
1/2" and 5/8" Square Drive
POWER-IMPACT TYPE



A

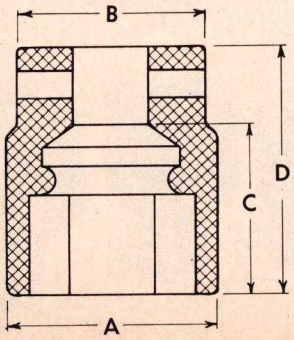


B





C



METRIC IMPACT SOCKETS for HEXAGON nuts

1/2" Square Drive

Ⓐ STANDARD LENGTH SOCKETS—POWER TYPE

NOTE: The 1/2" Square Drive "POWER TYPE" sockets are intended for use on nut runners and are not recommended for use on impact wrenches.

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
10 mm.	PM-100	15.5 mm.	22 mm.	17.5 mm.	37.5 mm.
11 mm.	PM-110	17.5 mm.	22 mm.	17.5 mm.	37.5 mm.
12 mm.	PM-120	20 mm.	24 mm.	19 mm.	37.5 mm.
13 mm.	PM-130	20 mm.	24 mm.	19 mm.	37.5 mm.
14 mm.	PM-140	22 mm.	24 mm.	22 mm.	37.5 mm.
15 mm.	PM-150	23.5 mm.	25 mm.	22 mm.	37.5 mm.
16 mm.	PM-160	24.5 mm.	25 mm.	22 mm.	37.5 mm.
17 mm.	PM-170	26.5 mm.	26.5 mm.	22 mm.	37.5 mm.
19 mm.	PM-190	28 mm.	28 mm.	22 mm.	37.5 mm.
22 mm.	PM-220	33 mm.	33 mm.	22 mm.	37.5 mm.
24 mm.	PM-240	34.5 mm.	34.5 mm.	28 mm.	44 mm.
27 mm.	PM-270	39 mm.	39 mm.	33 mm.	50 mm.

1/2" Square Drive

Ⓑ STANDARD LENGTH SOCKETS—IMPACT TYPE

FLANK DRIVE

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
10 mm.	IMM-100	15.5 mm.	22 mm.	17.5 mm.	38 mm.
11 mm.	IMM-110	17.5 mm.	22 mm.	17.5 mm.	38 mm.
12 mm.	IMM-120	20 mm.	24 mm.	19 mm.	38 mm.
13 mm.	IMM-130	20 mm.	24 mm.	19 mm.	38 mm.
14 mm.	IMM-140	22 mm.	24 mm.	22 mm.	38 mm.
15 mm.	IMM-150	23.5 mm.	25 mm.	22 mm.	38 mm.
16 mm.	IMM-160	24.5 mm.	25 mm.	22 mm.	38 mm.
17 mm.	IMM-170	26.5 mm.	26.5 mm.	22 mm.	38 mm.
18 mm.	IMM-180	28 mm.	28 mm.	22 mm.	38 mm.
19 mm.	IMM-190	28 mm.	28 mm.	22 mm.	38 mm.
20 mm.	IMM-200	30 mm.	30 mm.	22 mm.	38 mm.
21 mm.	IMM-210	32 mm.	32 mm.	22 mm.	38 mm.
22 mm.	IMM-220	33 mm.	33 mm.	22 mm.	38 mm.
24 mm.	IMM-240	34.5 mm.	34.5 mm.	28 mm.	44 mm.
27 mm.	IMM-270	39 mm.	39 mm.	33 mm.	50 mm.

5/8" Square Drive

Ⓒ STANDARD LENGTH SOCKETS—IMPACT TYPE

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
13 mm.	IMM-131	22 mm.	33 mm.	22.5 mm.	38 mm.
14 mm.	IMM-141	24 mm.	33 mm.	22.5 mm.	38 mm.
17 mm.	IMM-171	28.2 mm.	33 mm.	22.5 mm.	38 mm.
19 mm.	IMM-191	30.6 mm.	33 mm.	22.5 mm.	38 mm.
22 mm.	IMM-221	34.5 mm.	34.5 mm.	25 mm.	41 mm.
24 mm.	IMM-241	36.5 mm.	33 mm.	22.5 mm.	44.5 mm.
27 mm.	IMM-271	41 mm.	38 mm.	34.5 mm.	50 mm.
30 mm.	IMM-301	44.5 mm.	38 mm.	34.5 mm.	50 mm.
32 mm.	IMM-321	46 mm.	38 mm.	34.5 mm.	50 mm.

NOTE: Specifications of the above Metric sockets are given in inch fractions on page 55 of the general catalogue section.

INDUSTRIAL SOCKETS
AND ATTACHMENTS
5/8" Square Drive

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

For SQUARE nuts

Ⓐ STANDARD LENGTH SOCKETS

DOUBLE SQUARE		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
9/16"	▲IM-418	1 1/16"	1 5/16"	7/8"	1 1/2"
5/8"	▲IM-420	1 3/16"	1 5/16"	7/8"	1 1/2"
1 1/16"	▲IM-422A	1 5/16"	1 5/16"	27/32"	1 1/2"
3/4"	▲IM-424	1 3/8"	1 3/8"	7/8"	1 1/2"
13/16"	▲IM-426	1 1/2"	1 5/16"	1"	1 5/8"
7/8"	▲IM-428	1 9/16"	1 5/16"	1"	1 5/8"
15/16"	▲IM-430	1 11/16"	1 1/2"	1 1/8"	1 3/4"
1"	▲IM-432	1 3/4"	1 1/2"	1 1/8"	1 3/4"
1 1/16"	▲IM-434	1 7/8"	1 1/2"	1 3/8"	2"
1 1/8"	▲IM-436	2"	1 1/2"	1 3/8"	2"

Ⓑ POWER EXTENSION BARS
Fitted with locking button

Stock Number	Square Drive	Shank Diameter	Overall Length
▲PHD-6	5/8"	13/16"	6"
▲PHD-12	5/8"	13/16"	12"

Ⓒ IMPACT BALL-TYPE UNIVERSAL JOINT
Fitted with locking button

Stock Number	Square Drive	Outside Diameter A	Overall Length B
▲IMB-81	5/8"	1 1/2"	2 19/32"

Ⓓ IMPACT SOCKET-HANDLE ADAPTOR

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲IM-34A	5/8"	3/4"	1 5/8"	1 13/16"

POWER SOCKET—HANDLE ADAPTORS
Fitted with locking button

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲Ⓔ PHD-1	1/2"	5/8"	1"	1 5/8"
▲Ⓕ PHD-2	5/8"	1/2"	1 1/4"	1 25/32"
▲Ⓖ IM-52	3/4"	5/8"	1 5/8"	2 3/16"

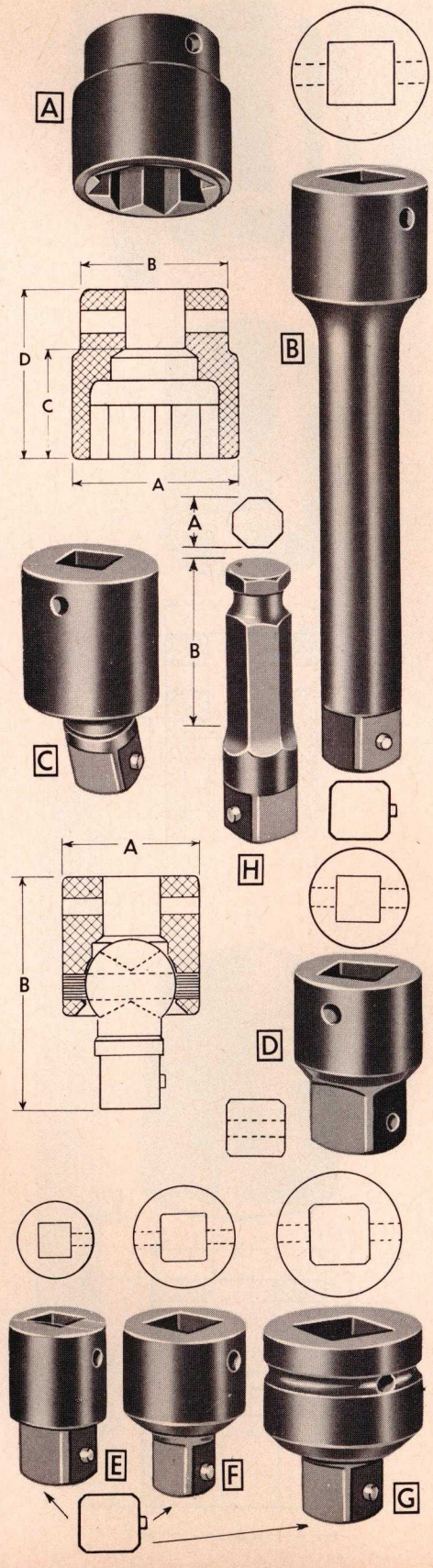
IM-52 — Use Lock Ring IM-182R, Lock Pin IM-182P or IM-182PR listed on page 28P.

Ⓗ HEXAGON POWER SHANK
Fitted with locking button

Fit Independent Pneumatic nut drivers.

Stock Number	Hex End A	Length of Hex B	Recess from End	Overall Length
A-3031	5/8"	1 3/4"	5/16"	3"

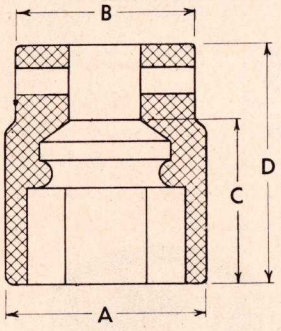
▲ Federal Specs: GGG-W-660 applies to all items listed on this page as indicated by symbol ▲.

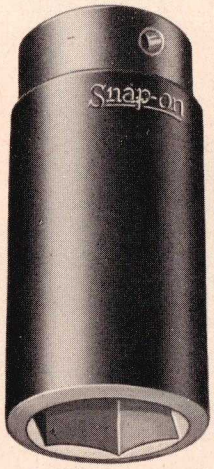


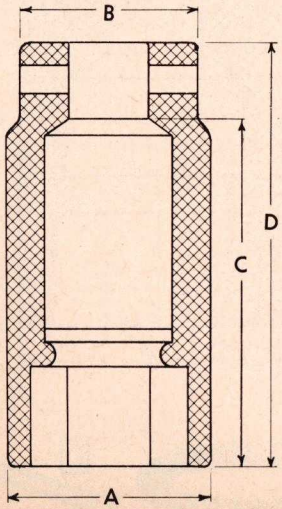
Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS
5/8" Square Drive
POWER-IMPACT TYPE









For HEXAGON nuts

Ⓐ STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
9/16"	▲IM-181	1 5/16"	1 5/16"	7/8"	1 1/2"
5/8"	▲IM-201	1 1/64"	1 5/16"	7/8"	1 1/2"
1 1/16"	▲IM-221	1 1/8"	1 5/16"	7/8"	1 1/2"
3/4"	▲IM-241	1 7/32"	1 5/16"	7/8"	1 1/2"
13/16"	▲IM-261	1 17/64"	1 5/16"	7/8"	1 1/2"
7/8"	▲IM-281	1 3/8"	1 3/8"	1"	1 5/8"
1 5/16"	▲IM-301	1 7/16"	1 5/16"	1 1/8"	1 3/4"
1"	▲IM-321	1 1/2"	1 1/2"	1 1/8"	1 3/4"
1 1/16"	▲IM-341	1 5/8"	1 1/2"	1 3/8"	2"
1 1/8"	▲IM-361	1 11/16"	1 1/2"	1 3/8"	2"
1 3/16"	▲IM-381	1 3/4"	1 1/2"	1 3/8"	2"
1 1/4"	▲IM-401	1 13/16"	1 1/2"	1 3/8"	2"
1 5/16"	▲IM-421	1 15/16"	1 1/2"	1 1/2"	2 1/8"
1 3/8"	▲IM-441	2"	1 1/2"	1 1/2"	2 1/8"
1 7/16"	▲IM-461	2 1/8"	1 1/2"	1 5/8"	2 1/4"
1 1/2"	▲IM-481	2 1/8"	1 13/16"	1 3/4"	2 3/8"

Ⓑ BOLT CLEARANCE LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
9/16"	▲SIM-181	1 5/16"	1 5/16"	2 5/8"	3 1/4"
5/8"	▲SIM-201	1 1/16"	1 5/16"	2 5/8"	3 1/4"
1 1/16"	▲SIM-221	1 1/8"	1 5/16"	2 5/8"	3 1/4"
3/4"	▲SIM-241	1 7/32"	1 5/16"	2 5/8"	3 1/4"
13/16"	▲SIM-261	1 17/64"	1 5/16"	2 5/8"	3 1/4"
7/8"	▲SIM-281	1 3/8"	1 3/8"	2 5/8"	3 1/4"
1 5/16"	▲SIM-301	1 7/16"	1 5/16"	2 7/8"	3 1/2"
1"	▲SIM-321	1 1/2"	1 1/2"	2 7/8"	3 1/2"
1 1/16"	▲SIM-341	1 5/8"	1 1/2"	2 7/8"	3 1/2"
1 1/8"	▲SIM-361	1 5/8"	1 5/8"	2 7/8"	3 1/2"
1 1/4"	▲SIM-401	1 13/16"	1 1/2"	2 7/8"	3 1/2"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.

INDUSTRIAL SOCKETS

3/4" Square Drive

POWER-IMPACT TYPE

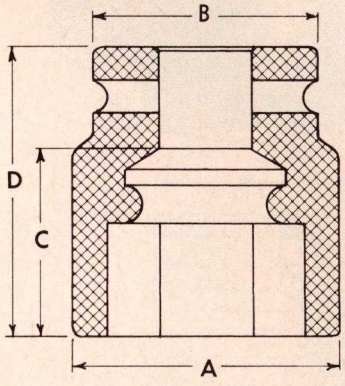
For HEXAGON nuts

Ⓐ STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
9/16"	▲IM-182	1"	1 5/8"	1"	1 3/4"
5/8"	▲IM-202	1 3/32"	1 5/8"	1"	1 3/4"
11/16"	▲IM-222	1 5/32"	1 5/8"	1"	1 3/4"
3/4"	▲IM-242	1 1/4"	1 5/8"	1"	1 3/4"
13/16"	▲IM-262	1 3/8"	1 5/8"	1 1/8"	1 7/8"
7/8"	▲IM-282	1 1/2"	1 5/8"	1 1/8"	1 7/8"
15/16"	▲IM-302	1 9/16"	1 5/8"	1 1/8"	1 7/8"
1"	▲IM-322	1 5/8"	1 5/8"	1 1/4"	2"
1 1/16"	▲IM-342	1 11/16"	1 5/8"	1 1/4"	2"
1 1/8"	▲IM-362	1 7/8"	1 5/8"	1 3/8"	2 1/8"
1 1/4"	▲IM-402	2"	1 3/4"	1 3/8"	2 1/8"
1 5/16"	▲IM-422	2 1/8"	1 3/4"	1 1/2"	2 1/4"
1 3/8"	▲IM-442	2 1/8"	1 3/4"	1 1/2"	2 1/4"
1 7/16"	▲IM-462	2 1/4"	1 3/4"	1 1/2"	2 1/4"
1 1/2"	▲IM-482	2 1/4"	1 3/4"	1 1/2"	2 1/4"



Ⓐ

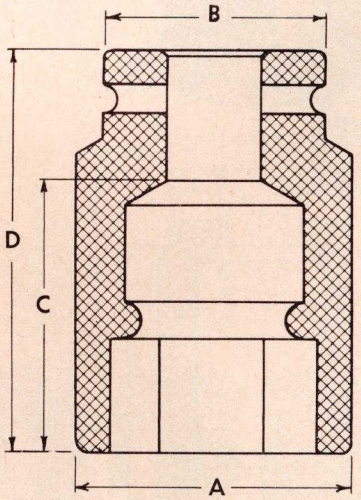


Ⓑ BOLT CLEARANCE LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
5/8"	▲SIM-202	1 3/32"	1 5/8"	2 3/8"	3"
11/16"	▲SIM-222	1 5/32"	1 5/8"	2 3/8"	3"
3/4"	▲SIM-242	1 1/4"	1 5/8"	2 3/8"	3"
13/16"	▲SIM-262	1 3/8"	1 5/8"	2 3/8"	3"
7/8"	▲SIM-282	1 1/2"	1 5/8"	2 3/8"	3"
15/16"	▲SIM-302	1 5/8"	1 5/8"	2 3/8"	3"
1"	▲SIM-322	1 5/8"	1 5/8"	2 3/8"	3"
1 1/16"	▲SIM-342	1 3/4"	1 5/8"	2 3/8"	3"
1 1/8"	▲SIM-362	1 3/4"	1 5/8"	2 3/8"	3"
1 1/4"	▲SIM-402	2"	1 3/4"	2 5/8"	3 1/4"
1 5/16"	▲SIM-422	2 1/8"	1 3/4"	2 5/8"	3 1/4"
1 3/8"	▲SIM-442	2 1/8"	1 3/4"	2 5/8"	3 1/4"
1 7/16"	▲SIM-462	2 1/4"	1 3/4"	2 7/8"	3 1/2"
1 1/2"	▲SIM-482	2 1/4"	1 3/4"	2 7/8"	3 1/2"



Ⓑ



Locking Ring and Pin

For sockets and attachments listed above and on pages 29P, 30P and 31P.

Ⓒ **IM-182R Locking Ring,** synthetic rubber, fits all 3/4" square drive sockets.

Ⓓ **IM-182P Steel Locking Pin,** fits all 3/4" square drive sockets.

Ⓓ **IM-182PR Rawhide Locking Pin,** fits all 3/4" square drive sockets.

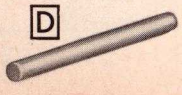
NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

Ⓒ



Ⓓ

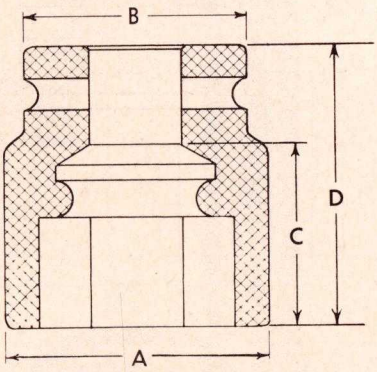


Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS
3/4" Square Drive
POWER-IMPACT TYPE



Ⓐ



For HEXAGON nuts

Ⓐ HEAVY DUTY IMPACT SOCKETS

These new Heavy Duty impact sockets are similar in appearance to the standard sockets listed on page 28P, but have undergone a special heat treatment to withstand impact use on track bolts of tractors and other heavy equipment. When used for this purpose these sockets should prove more durable and have longer service life than our standard IM series.

Single Hex Wrench Size	Stock Number	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
3/4"	▲IMT-242	1 1/4"	1 5/8"	1"	1 3/4"
13/16"	▲IMT-262	1 3/8"	1 5/8"	1 1/8"	1 7/8"
15/16"	▲IMT-302	1 9/16"	1 5/8"	1 1/8"	1 7/8"
1"	▲IMT-322	1 5/8"	1 5/8"	1 1/4"	2"
1 1/8"	▲IMT-362	1 7/8"	1 5/8"	1 3/8"	2 1/8"
1 5/16"	▲IMT-422	2 1/8"	1 3/4"	1 1/2"	2 1/4"

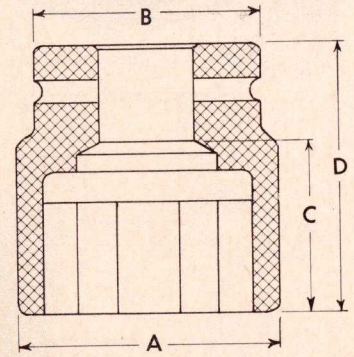
For SQUARE nuts

Ⓑ STANDARD LENGTH SOCKETS

Wrench Size	Stock Number	Outside Diameter Socket End A	Outside Diameter Handle End B	Bolt Clearance Depth C	Overall Length D
SINGLE SQUARE SIZES					
5/8"	▲IM-620	1 1/4"	1 5/8"	1"	1 3/4"
11/16"	▲IM-622	1 5/16"	1 5/8"	1"	1 3/4"
3/4"	▲IM-624	1 5/8"	1 5/8"	1"	1 3/4"
DOUBLE SQUARE SIZES					
13/16"	▲IM-626	1 5/8"	1 5/8"	1"	1 3/4"
7/8"	▲IM-628	1 13/16"	1 5/8"	1 1/8"	1 7/8"
15/16"	▲IM-630	1 13/16"	1 5/8"	1 1/8"	1 7/8"
1"	▲IM-632	2"	1 3/4"	1 1/4"	2"
1 1/16"	▲IM-634	2"	1 3/4"	1 1/4"	2"
1 1/8"	▲IM-636	2 1/4"	1 3/4"	1 3/8"	2 1/8"
1 3/16"	▲IM-638	2 1/4"	1 3/4"	1 3/8"	2 1/8"
1 1/4"	▲IM-640	2 1/2"	1 3/4"	1 1/2"	2 1/4"
1 5/16"	▲IM-642	2 1/2"	1 3/4"	1 1/2"	2 1/4"



Ⓑ



NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

Locking Rings and Pins to fit above sockets are listed on page 28P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

INDUSTRIAL SOCKETS

3/4" Square Drive

POWER-IMPACT TYPE

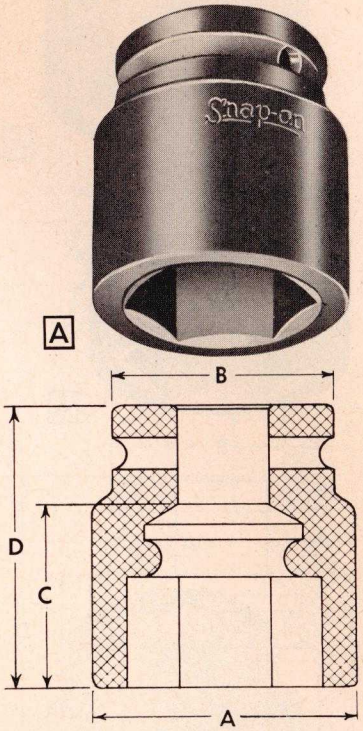
Snap-on® Tools

FOR PRODUCTION AND MAINTENANCE

METRIC IMPACT SOCKETS for HEXAGON nuts

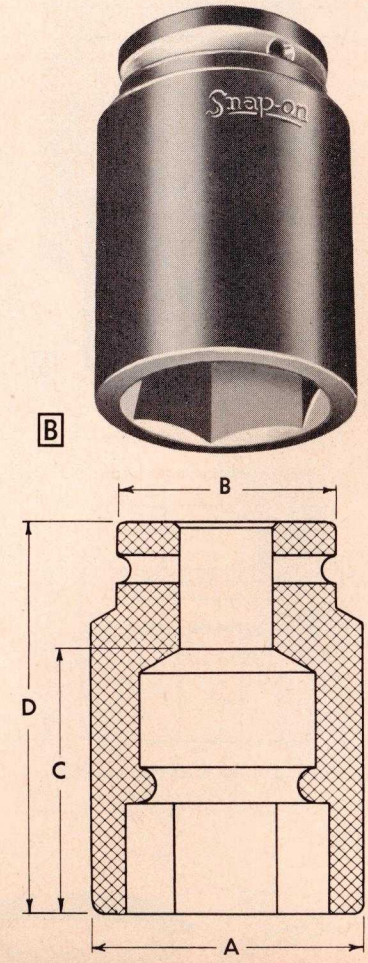
Ⓐ STANDARD LENGTH SOCKETS

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth C	Overall Length D
		Socket End A	Handle End B		
17 mm.	IMM-172	29 mm.	41 mm.	19.5 mm.	44.5 mm.
19 mm.	IMM-192	31.5 mm.	41 mm.	19.5 mm.	44.5 mm.
20 mm.	IMM-202	32 mm.	41 mm.	19.5 mm.	44.5 mm.
22 mm.	IMM-222	36.5 mm.	41 mm.	25 mm.	47.5 mm.
24 mm.	IMM-242	39.5 mm.	41 mm.	25 mm.	47.5 mm.
27 mm.	IMM-272	42.5 mm.	41 mm.	28.2 mm.	50 mm.
30 mm.	IMM-302	45.5 mm.	41 mm.	28.2 mm.	53.2 mm.
31 mm.	IMM-312	45.5 mm.	41 mm.	31.4 mm.	53.2 mm.
32 mm.	IMM-322	50 mm.	44.5 mm.	28.2 mm.	53.2 mm.
34 mm.	IMM-342	50 mm.	44.5 mm.	34.5 mm.	53.2 mm.
35 mm.	IMM-352	53.5 mm.	44.5 mm.	34.5 mm.	56.4 mm.
36 mm.	IMM-362	53.5 mm.	44.5 mm.	28.2 mm.	54.8 mm.
38 mm.	IMM-382	56.4 mm.	44.5 mm.	34.5 mm.	56.4 mm.
40 mm.	IMM-402	59.5 mm.	44.5 mm.	44.5 mm.	66 mm.
41 mm.	IMM-412	61.5 mm.	44.5 mm.	41 mm.	66 mm.
46 mm.	IMM-462	70 mm.	44.5 mm.	28.2 mm.	59.5 mm.



Ⓑ BOLT CLEARANCE LENGTH SOCKETS

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth C	Overall Length D
		Socket End A	Handle End B		
24 mm.	SIMM-242	41 mm.	41 mm.	56.4 mm.	75 mm.
27 mm.	SIMM-272	44.5 mm.	41 mm.	53.2 mm.	75 mm.
30 mm.	SIMM-302	50 mm.	44.5 mm.	53.2 mm.	81.4 mm.
32 mm.	SIMM-322	50 mm.	44.5 mm.	53.2 mm.	81.4 mm.
36 mm.	SIMM-362	56.4 mm.	44.5 mm.	63 mm.	88 mm.



NOTE: Specifications of all above sockets are shown in inch fractions on page 55 of general catalogue section.

LOCKING RINGS—SYNTHETIC RUBBER

IM-182R. Fits all ¾" square drive sockets above.

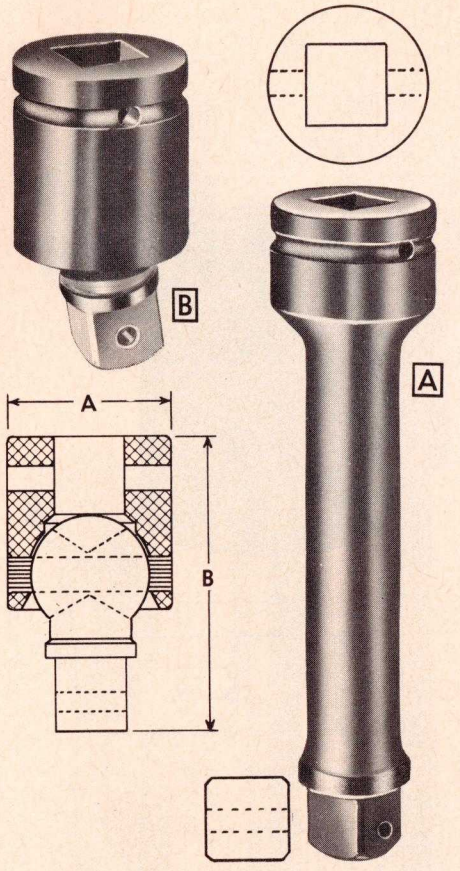
LOCKING PINS

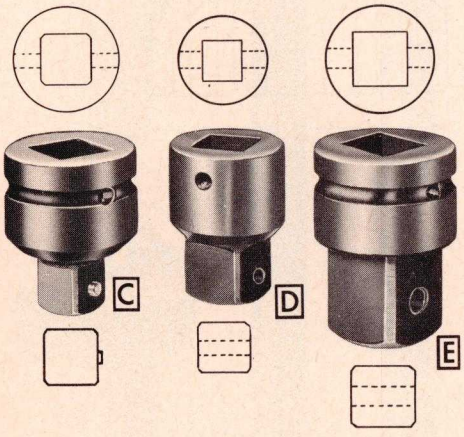
IM-182P Steel Locking Pin. Fits all ¾" square drive sockets above.

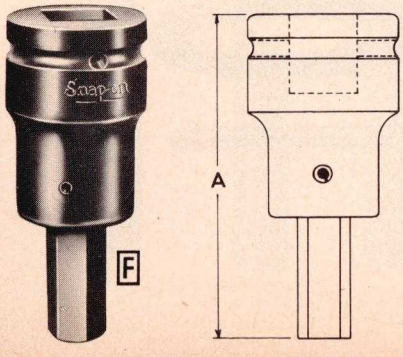
IM-182PR Rawhide Locking Pin. Fits all ¾" square drive sockets above.

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES AND ATTACHMENTS
3/4" Square Drive







Ⓐ IMPACT EXTENSION BARS

Stock Number	Square Drive	Shank Diameter	Overall Length
▲IM-62A	3/4"	1"	7"
▲IM-92A	3/4"	1"	10"
▲IM-122A	3/4"	1"	13"

IM-62A, IM-92A and IM-122A — Use IM-182R Lock Ring and IM-182P or IM-182PR Lock Pin listed on page 28P.

Ⓑ IMPACT BALL-TYPE UNIVERSAL JOINT

Stock Number	Square Drive	Outside Diameter A	Overall Length B
▲IMB-82	3/4"	1 3/4"	3 5/32"

IMB-82 — Use IM-182R Lock Ring and IM-182P or IM-182PR Lock Pin listed on page 28P.

Ⓒ POWER SOCKET—HANDLE ADAPTOR
Fitted with locking button

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲IM-52	3/4"	5/8"	1 5/8"	2 3/16"

IM-52 — Use Lock Ring IM-182R, Lock Pin IM-182P or IM-182PR listed on page 28P.

IMPACT SOCKET-HANDLE ADAPTORS

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲Ⓓ IM-34A	5/8"	3/4"	1 5/16"	1 13/16"
▲Ⓔ IM-72	3/4"	1"	1 5/8"	2 9/16"
▲Ⓔ IM-124A	1"	3/4"	2 1/8"	2 13/16"

IM-72 — Use IM-182R Lock Ring and IM-182P or IM-182PR Lock Pin listed on page 28P.

IM-124A — Use IM-243R Lock Ring and IM-243P or IM-243PR Lock Pin listed on page 32P.

Ⓕ HEX HEAD SCREW DRIVERS
(Impact Type)

COMPLETE TOOL			REPLACEMENT PARTS	
Wrench Size	Stock No.	Overall Length A	Bit Only	Roll Pin Only
9/16"	LAW-118A	3 19/32"	SA-18A-2	ESD-311
5/8"	LAW-120A	3 3/4"	LAW-120A-2	ESD-306
3/4"	LAW-124A	4 3/8"	LAW-124A-2	ESD-309

▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.

INDUSTRIAL SOCKETS

3/4" Square Drive

THIN WALL TYPE—BLACK FINISH

Snap-on® Tools
FOR PRODUCTION AND MAINTENANCE

These sockets are designed for use with the manual type handles shown on Page 33P. Sockets recommended for use on powered impact wrenches and nut setters are shown on Pages 28P and 29P.

For HEXAGON nuts

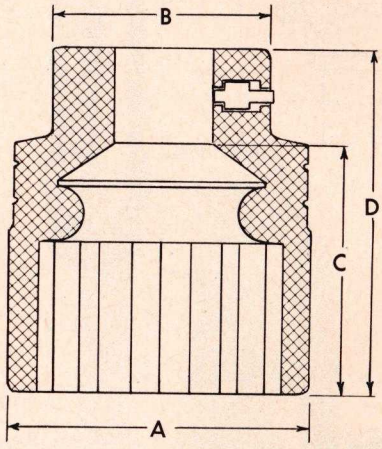
Ⓐ STANDARD LENGTH SOCKETS

DOUBLE HEX		Outside Diameter			
Wrench Size	Stock Number	Socket End A	Handle End B	Bolt Clearance Depth C	Overall Length D
7/8"	GLDH-282	1 5/16"	1 7/16"	1 1/4"	2"
15/16"	GLDH-302	1 3/8"	1 7/16"	1 1/4"	2"
31/32"	GLDH-312	1 13/32"	1 7/16"	1 1/4"	2"
1"	GLDH-322	1 15/32"	1 1/2"	1 5/16"	2 1/16"
1 1/16"	GLDH-342	1 9/16"	1 1/2"	1 3/8"	2 1/8"
1 1/8"	GLDH-362	1 5/8"	1 1/2"	1 7/16"	2 3/16"
1 3/16"	GLDH-382	1 11/16"	1 1/2"	1 1/2"	2 1/4"
1 1/4"	GLDH-402	1 3/4"	1 1/2"	1 1/2"	2 1/4"
1 5/16"	GLDH-422A	1 7/8"	1 5/8"	1 9/16"	2 5/16"
1 3/8"	GLDH-442	1 15/16"	1 5/8"	1 9/16"	2 5/16"
1 7/16"	GLDH-462	2"	1 5/8"	1 5/8"	2 3/8"
1 1/2"	GLDH-482	2 1/8"	1 5/8"	1 3/4"	2 1/2"
1 9/16"	GLDH-502	2 3/16"	1 3/4"	1 7/8"	2 5/8"
1 5/8"	GLDH-522	2 1/4"	1 3/4"	1 7/8"	2 5/8"
1 11/16"	GLDH-542	2 3/8"	1 3/4"	2"	2 3/4"
1 3/4"	GLDH-562	2 7/16"	1 3/4"	2"	2 3/4"
1 13/16"	GLDH-582	2 1/2"	1 3/4"	2 1/8"	2 7/8"
1 7/8"	GLDH-602	2 9/16"	1 3/4"	2 1/4"	3"
2"	GLDH-642	2 3/4"	1 3/4"	2 3/8"	3 1/8"
2 1/8"	GLDH-682	2 15/16"	1 3/4"	2 1/2"	3 1/4"
2 3/16"	GLDH-702	2 15/16"	1 3/4"	2 1/2"	3 1/4"
2 1/4"	GLDH-722	3 1/8"	1 3/4"	2 5/8"	3 3/8"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.



Ⓐ



Ⓑ LOCKING RINGS

IM-243R Locking Ring, synthetic rubber, fits all 1" square drive sockets IM-243 to IM-463 (page 34P), SIM-283 to SIM-463 (page 35P), IM-724 to IM-736 (page 36P), SIM-728 to SIM-732 (page 36P), IMM-323 and IMM-363 (page 37P), IMT-243 to IMT-423 (page 35P).

IM-483R Locking Ring, synthetic rubber, fits 1" square drive sockets IM-483 to IM-1163 (page 34P), SIM-483 to SIM-883 (page 35P), IM-738 to IM-764 (page 36P), SIM-736 to SIM-772 (page 36P), IMM-413 to IMM-653 (page 37P), and all spline drive sockets listed on page 43P.


Ⓑ

Ⓒ LOCKING PINS

IM-243P Steel Locking Pin, fits the same sizes as IM-243R above.

IM-243PR Rawhide Locking Pin, fits the same sizes as IM-243R above.

IM-483P Steel Locking Pin, fits the same sizes as IM-483R above.

IM-483PR Rawhide Locking Pin, fits the same sizes as IM-483R above.

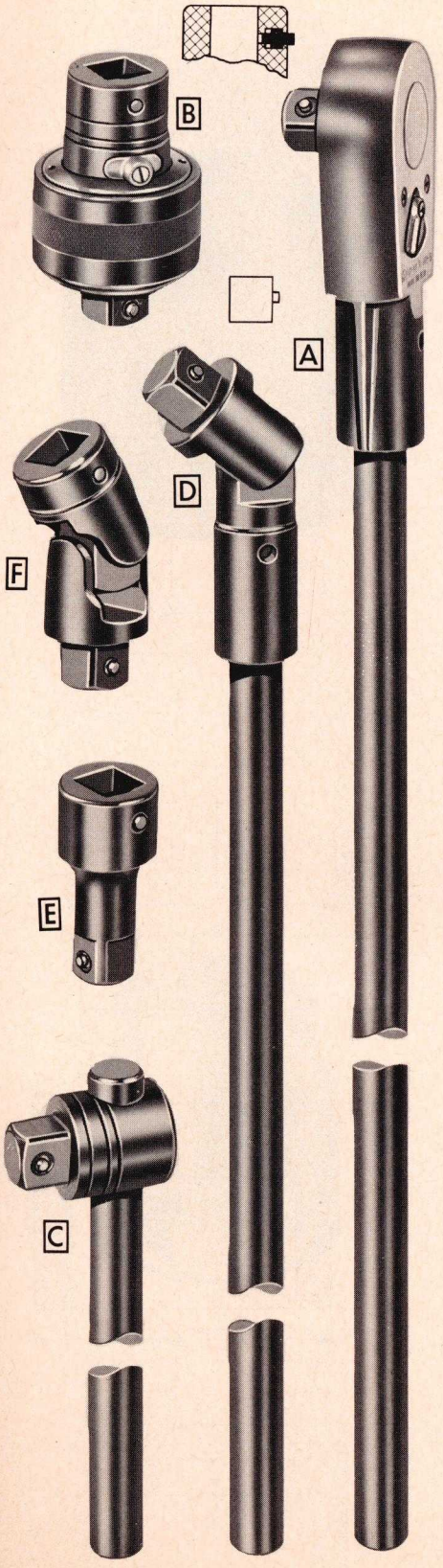

Ⓒ

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES

3/4" Square Drive

FITTED WITH LOCKING BUTTON



Ⓐ RATCHET

Gear Action — 32 Teeth

Black Finish — Locking button on handle and on square drive.

COMPLETE TOOL		HEAD ONLY				HANDLE ONLY	
Stock Number	Overall Length	Stock Number	Head Length	Head Thickness	Head Width	Stock Number	Handle Diameter
GL-72TH	24″	GL-72T	6 1/32″	1 1/8″	2 9/16″	GL-72H	13/16″

L-72RL Ratchet handle. 36″ long. For use with GL-72T Ratchet Head listed above.

Ⓑ RATCHET ADAPTOR

Black Finish — Locking button on square drive.

Stock Number	Square Drive	Outside Diameter	Overall Length
GL-672A	3/4″	2 1/2″	3 3/4″

Ⓒ SLIDING TEE HANDLE

Black Finish — Locking button on handle and on square drive.

COMPLETE TOOL				HEAD ONLY	HANDLE ONLY		
Stock Number	Square Drive	Overall Length	Handle Diameter	Stock Number	Stock Number	Length	Diameter
GL-52BH	3/4″	21 1/2″	13/16″	GL-52B	GL-72H	20″	13/16″

Ⓓ NUT SPINNER HANDLE

Black Finish — Locking button on handle and on square drive.

COMPLETE TOOL		HEAD ONLY			HANDLE ONLY		
Stock Number	Overall Length	Stock Number	Square Drive	Head Width	Stock Number	Handle Length	Handle Diameter
GL-112EH	21 1/2″	GL-112E	3/4″	1 9/16″	GL-72H	20″	13/16″

Ⓔ STANDARD EXTENSION BARS

Black Finish — Locking button on square drive — release button on handle end.

Stock Number	Square Drive	Shank Diameter	Overall Length
GL-32	3/4″	15/16″	3″
GL-42	3/4″	15/16″	5″
GL-62	3/4″	15/16″	8″
GL-122	3/4″	15/16″	16″

Ⓕ STANDARD UNIVERSAL JOINT

Black Finish — Locking button on square drive — release button on handle end.

Stock Number	Square Drive	Outside Diameter	Overall Length
GL-82A	3/4″	1 9/16″	3 1/8″

INDUSTRIAL SOCKETS

1" Square Drive

POWER-IMPACT TYPE

Snap-on® Tools

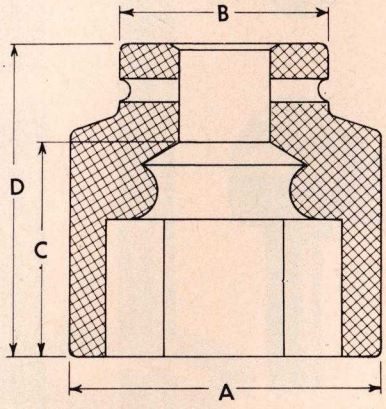
FOR PRODUCTION AND MAINTENANCE

For HEXAGON nuts

STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
3/4"	▲IM-243	1 1/2"	2 1/8"	15/16"	2 1/8"
13/16"	▲IM-263	1 1/2"	2 1/8"	15/16"	2 1/8"
7/8"	▲IM-283	1 17/32"	2 1/8"	15/16"	2 1/8"
15/16"	▲IM-303	1 19/32"	2 1/8"	15/16"	2 1/8"
1"	▲IM-323	1 11/16"	2 1/8"	1 1/16"	2 1/4"
1 1/16"	▲IM-343	1 3/4"	2 1/8"	1 1/16"	2 1/4"
1 1/8"	▲IM-363	1 7/8"	2 1/8"	1 1/16"	2 1/4"
1 3/16"	▲IM-383	1 7/8"	2 1/8"	1 1/16"	2 1/4"
1 1/4"	▲IM-403	2"	2 1/8"	1 3/16"	2 3/8"
1 5/16"	▲IM-423	2 1/16"	2 1/8"	1 5/16"	2 1/2"
1 3/8"	▲IM-443	2 1/8"	2 1/8"	1 5/16"	2 1/2"
1 7/16"	▲IM-463	2 1/4"	2 1/4"	1 7/16"	2 1/2"
1 1/2"	▲IM-483	2 3/8"	2 3/8"	1 9/16"	2 3/4"
1 9/16"	▲IM-503	2 3/8"	2 3/8"	1 9/16"	2 3/4"
1 5/8"	▲IM-523	2 3/8"	2 3/8"	1 9/16	2 3/4"
1 11/16"	▲IM-543	2 5/8"	2 3/8"	1 11/16"	2 7/8"
1 3/4"	▲IM-563	2 5/8"	2 3/8"	1 11/16"	2 7/8"
1 13/16"	▲IM-583	2 3/4"	2 3/8"	1 13/16"	3"
1 7/8"	▲IM-603	2 3/4"	2 3/8"	1 13/16"	3"
1 15/16"	▲IM-623	2 3/4"	2 3/8"	1 13/16"	3"
2"	▲IM-643	3"	2 3/8"	2 1/16"	3 1/4"
2 1/16"	▲IM-663	3"	2 3/8"	2 1/16"	3 1/4"
2 1/8"	▲IM-683	3 1/4"	2 3/8"	2 1/16"	3 1/4"
2 3/16"	▲IM-703	3 1/4"	2 3/8"	2 5/16"	3 1/2"
2 1/4"	▲IM-723	3 1/4"	2 3/8"	2 5/16"	3 1/2"
2 5/16"	▲IM-743	3 1/2"	2 3/8"	2 5/16"	3 1/2"
2 3/8"	▲IM-763	3 1/2"	2 3/8"	2 7/16"	3 5/8"
2 7/16"	▲IM-783	3 1/2"	2 3/8"	2 7/16"	3 5/8"
2 1/2"	▲IM-803	3 3/4"	2 3/8"	2 7/16"	3 5/8"
2 9/16"	▲IM-823	3 3/4"	2 3/8"	2 9/16"	3 3/4"
2 5/8"	▲IM-843	3 3/4"	2 3/8"	2 9/16"	3 3/4"
2 11/16"	▲IM-863	3 7/8"	2 3/8"	2 11/16"	3 7/8"
2 3/4"	▲IM-883	3 7/8"	2 3/8"	2 11/16"	3 7/8"
2 13/16"	▲IM-903	4"	2 3/8"	2 13/16"	4"
2 7/8"	▲IM-923	4"	2 3/8"	2 13/16"	4"
2 15/16"	▲IM-943	4 1/4"	2 3/8"	2 15/16"	4 1/8"
3"	▲IM-963	4 1/4"	2 3/8"	2 15/16"	4 1/8"
3 1/8"	▲IM-1003	4 3/8"	2 3/8"	3 3/16"	4 3/8"
3 1/4"	▲IM-1043	4 3/8"	2 3/8"	3 3/16"	4 3/8"
3 1/2"	▲IM-1123	4 3/4"	2 3/8"	3 3/16"	4 3/8"
3 5/8"	▲IM-1163	5"	2 3/8"	3 9/16"	4 3/4"





Locking Pins and Rings to fit above sockets are listed on page 32P.

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page as indicated by symbol ▲.**

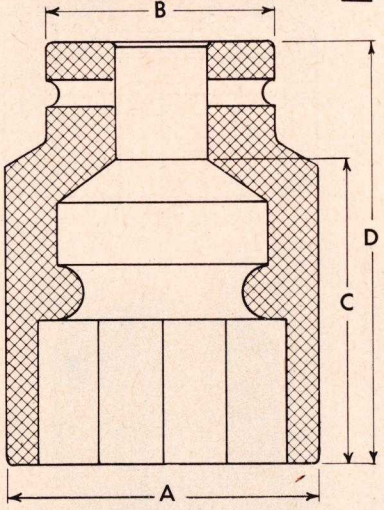
Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL SOCKETS

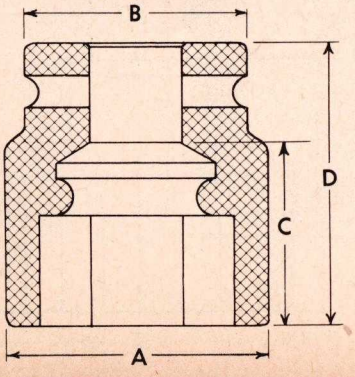
1" Square Drive

POWER-IMPACT TYPE









For HEXAGON nuts

Ⓐ BOLT CLEARANCE LENGTH SOCKETS

SINGLE HEX		Outside Diameter			
Wrench Size	Stock Number	Socket End A	Handle End B	Bolt Clearance Depth C	Overall Length D
7/8"	▲SIM-283	1 19/32"	2 1/8"	1 13/16"	3"
1"	▲SIM-323	1 19/32"	2 1/8"	1 13/16"	3"
1 1/16"	▲SIM-343	1 13/16"	2 1/8"	1 13/16"	3"
1 1/8"	▲SIM-363	1 13/16"	2 1/8"	1 13/16"	3"
1 3/16"	▲SIM-383	1 13/16"	2 1/8"	1 13/16"	3"
1 1/4"	▲SIM-403	2 1/16"	2 1/8"	2 1/16"	3 1/4"
1 5/16"	▲SIM-423	2 1/16"	2 1/8"	2 1/16"	3 1/4"
1 3/8"	▲SIM-443	2 1/16"	2 1/8"	2 1/16"	3 1/4"
1 7/16"	▲SIM-463	2 1/4"	2 1/4"	2 1/16"	3 1/4"
1 1/2"	▲SIM-483	2 3/8"	2 3/8"	2 5/16"	3 1/2"
1 9/16"	▲SIM-503	2 3/8"	2 3/8"	2 5/16"	3 1/2"
1 5/8"	▲SIM-523	2 1/2"	2 3/8"	2 7/16"	3 5/8"
1 11/16"	▲SIM-543	2 1/2"	2 3/8"	2 7/16"	3 5/8"
1 3/4"	▲SIM-563	2 3/4"	2 3/8"	2 11/16"	3 7/8"
1 13/16"	▲SIM-583	2 3/4"	2 3/8"	2 11/16"	3 7/8"
1 7/8"	▲SIM-603	2 3/4"	2 3/8"	2 11/16"	3 7/8"
1 15/16"	▲SIM-623	3"	2 3/8"	2 15/16"	4 1/8"
2"	▲SIM-643	3"	2 3/8"	2 15/16"	4 1/8"
2 1/16"	▲SIM-663	3"	2 1/4"	2 11/16"	3 7/8"
2 1/8"	▲SIM-683	3 1/4"	2 3/8"	3 3/16"	4 3/8"
2 3/16"	▲SIM-703	3 1/4"	2 3/8"	3 3/16"	4 3/8"
2 1/4"	▲SIM-723	3 1/4"	2 3/8"	3 3/16"	4 3/8"
2 5/16"	▲SIM-743	3 1/2"	2 3/8"	3 5/16"	4 1/2"
2 3/8"	▲SIM-763	3 1/2"	2 3/8"	3 5/16"	4 1/2"
2 9/16"	▲SIM-823	3 3/4"	2 3/8"	3 1/2"	4 7/8"
2 3/4"	▲SIM-883	3 7/8"	2 3/8"	3 5/8"	5 1/8"

Ⓑ HEAVY DUTY IMPACT SOCKETS

These new Heavy Duty impact sockets are similar in appearance to the standard sockets listed on page 30P, but have undergone a special heat treatment to withstand impact use on track bolts of tractors and other heavy equipment. When used for this purpose these sockets should prove more durable and have longer service life than our standard IM series.

SINGLE HEX		Outside Diameter				
Single Hex Wrench Size	Stock Number	Socket End A	Handle End B	Broach Depth	Bolt Clearance Depth C	Overall Length D
3/4"	▲IMT-243	1 1/2"	2 1/8"	5/8"	15/16"	2 1/8"
13/16"	▲IMT-263	1 1/2"	2 1/8"	5/8"	15/16"	2 1/8"
15/16"	▲IMT-303	1 19/32"	2 1/8"	7/8"	15/16"	2 1/8"
1"	▲IMT-323	1 11/16"	2 1/8"	11/16"	1 1/16"	2 1/4"
1 1/8"	▲IMT-363	1 7/8"	2 1/8"	11/16"	1 1/16"	2 1/4"
1 5/16"	▲IMT-423	2 1/16"	2 1/8"	7/8"	1 5/16"	2 1/2"

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 56P.

Locking Pins and Rings to fit above sockets are listed on page 3P.

▲ **Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.**

INDUSTRIAL SOCKETS

1" Square Drive

POWER-IMPACT TYPE

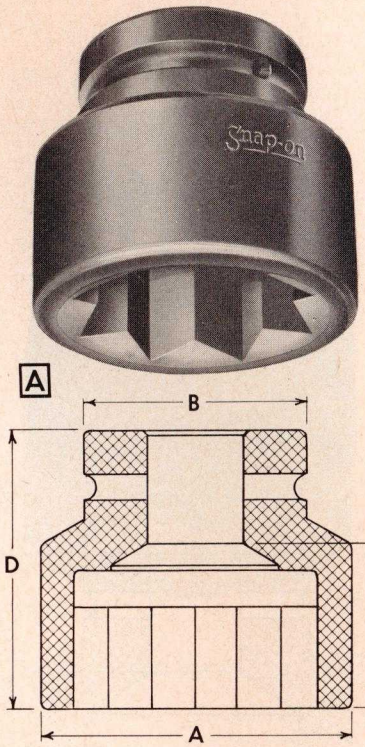
Snap-on® Tools

FOR PRODUCTION AND MAINTENANCE

For SQUARE nuts

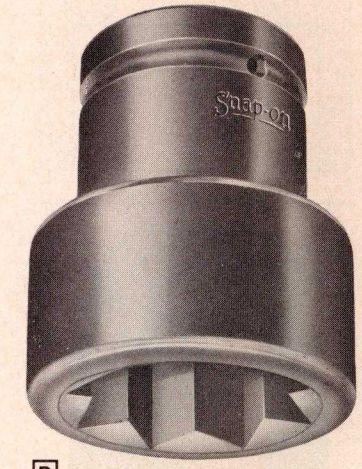
Ⓐ STANDARD LENGTH SOCKETS

Wrench Size	Stock Number	Outside Diameter: Socket End A	Outside Diameter: Handle End B	Bolt Clearance Depth C	Overall Length D
SINGLE SQUARE SIZES					
3/4"	▲IM-724	1 15/16"	2 1/8"	15/16"	2 1/8"
13/16"	▲IM-726	1 15/16"	2 1/8"	15/16"	2 1/8"
7/8"	▲IM-728	2 1/16"	2 1/8"	15/16"	2 1/8"
15/16"	▲IM-730	2 1/16"	2 1/8"	15/16"	2 1/8"
1"	▲IM-732	2 1/8"	2 1/8"	1 1/16"	2 1/4"
1 1/16"	▲IM-734	2 1/8"	2 1/8"	1 1/16"	2 1/4"
1 1/8"	▲IM-736	2 1/4"	2 1/4"	1 1/16"	2 1/4"
1 3/16"	▲IM-738	2 3/4"	2 3/8"	1 1/8"	2 3/8"
DOUBLE SQUARE SIZES					
1 1/4"	▲IM-740	2 3/8"	2 3/8"	1 1/8"	2 3/8"
1 5/16"	▲IM-742	2 5/8"	2 3/8"	1 1/4"	2 1/2"
1 3/8"	▲IM-744	2 5/8"	2 3/8"	1 1/4"	2 1/2"
1 1/2"	▲IM-748	2 7/8"	2 3/8"	1 5/16"	2 5/8"
1 5/8"	▲IM-752	3 1/8"	2 3/8"	1 13/32"	2 3/4"
1 7/8"	▲IM-760	3 3/8"	2 3/8"	1 1/2"	2 7/8"
2"	▲IM-764	3 5/8"	2 3/8"	1 23/32"	3 1/8"



Ⓑ BOLT CLEARANCE LENGTH SOCKETS

Wrench Size	Stock Number	Outside Diameter: Socket End A	Outside Diameter: Handle End B	Bolt Clearance Depth C	Overall Length D
SINGLE SQUARE SIZES					
7/8"	▲SIM-728	1 15/16"	2 1/8"	1 13/16"	3"
1"	▲SIM-732	2 1/8"	2 1/8"	1 13/16"	3"
1 1/8"	▲SIM-736	2 3/8"	2 3/8"	1 15/16"	3 1/8"
DOUBLE SQUARE SIZES					
1 1/4"	▲SIM-740	2 3/8"	2 3/8"	1 15/16"	3 1/8"
1 7/16"	▲SIM-746	2 5/8"	2 3/8"	2 1/16"	3 1/4"
1 1/2"	▲SIM-748	2 7/8"	2 3/8"	2 5/16"	3 1/2"
1 5/8"	▲SIM-752	2 7/8"	2 3/8"	2 5/16"	3 1/2"
1 11/16"	▲SIM-754	3 1/8"	2 3/8"	2 7/16"	3 5/8"
1 3/4"	▲SIM-756	3 1/8"	2 3/8"	2 7/16"	3 5/8"
1 13/16"	▲SIM-758	3 3/8"	2 3/8"	2 9/16"	3 7/8"
2"	▲SIM-764	3 5/8"	2 3/8"	2 13/16"	4 1/8"
2 1/8"	▲SIM-768	3 7/8"	2 3/8"	3 1/16"	4 1/4"
2 3/16"	▲SIM-770	3 7/8"	2 3/8"	3 1/16"	4 1/4"



Locking Pins and Rings to fit above sockets are listed on page 37P.

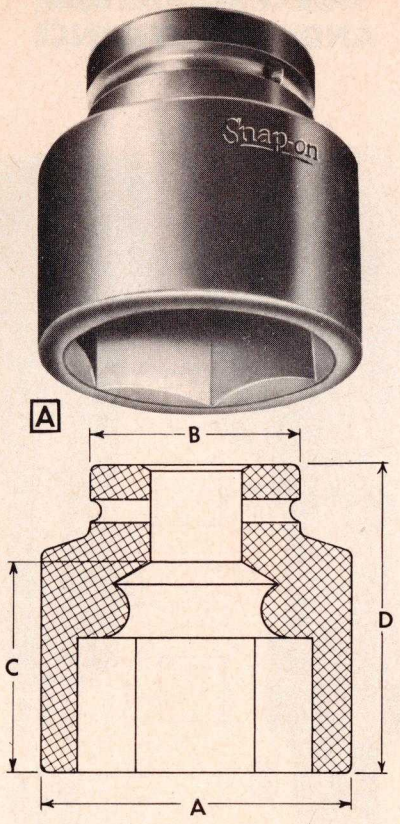
NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

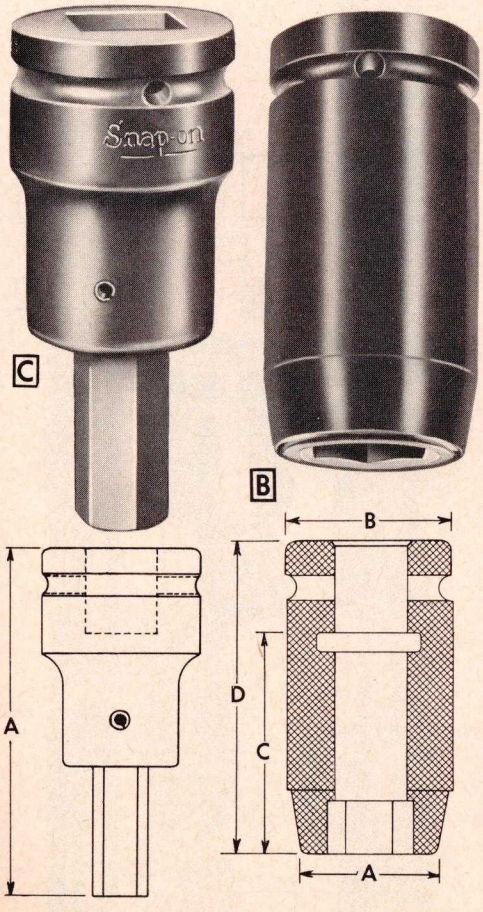
Snap-on Tools

INDUSTRIAL SOCKETS

1" Square Drive

POWER-IMPACT TYPE





METRIC IMPACT SOCKETS

1" Square Drive

For HEXAGON nuts

Ⓐ STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock No.	Socket End A	Handle End B		
24 mm.	IMM-243	40.5 mm.	53.2 mm.	24 mm.	53.2 mm.
32 mm.	IMM-323	50 mm.	53.2 mm.	29.8 mm.	59.5 mm.
36 mm.	IMM-363	56.4 mm.	56.4 mm.	29.8 mm.	63 mm.
41 mm.	IMM-413	59.5 mm.	59.5 mm.	34.5 mm.	66 mm.
46 mm.	IMM-463	69.5 mm.	59.5 mm.	41 mm.	72.5 mm.
50 mm.	IMM-503	69.5 mm.	59.5 mm.	41 mm.	72.5 mm.
52 mm.	IM-663	76.2 mm.	60.3 mm.	50 mm.	82.5 mm.
55 mm.	IMM-553	81.4 mm.	59.5 mm.	50 mm.	81.4 mm.
60 mm.	IMM-603	88 mm.	59.5 mm.	56.4 mm.	88 mm.
65 mm.	IMM-653	94.5 mm.	59.5 mm.	51.6 mm.	91 mm.

Ⓑ BOLT CLEARANCE LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock No.	Socket End A	Handle End B		
22 mm.	SIMM-223	40.5 mm.	53.2 mm.	76.6 mm.	107 mm.
24 mm.	SIMM-243	40.5 mm.	53.2 mm.	76.6 mm.	107 mm.
27 mm.	SIMM-273	46 mm.	53.2 mm.	76.6 mm.	107 mm.
30 mm.	SIMM-303	47.5 mm.	53.2 mm.	76.6 mm.	107 mm.
32 mm.	SIMM-323	51.6 mm.	53.2 mm.	76.6 mm.	107 mm.

NOTE: Specifications of the above Metric sockets are shown in inch fractions on page 55 of the general catalogue section.

Ⓒ HEX HEAD SCREW DRIVERS

Impact Type

COMPLETE TOOL			REPLACEMENT PARTS	
Wrench Size	Stock No.	Overall Length A	Bit Only	Roll Pin Only
7/8"	IMA-283	5 3/8"	IMA-283-2	ME-2C-18
1"	IMA-323	5 3/8"	IMA-323-2	ME-2C-1

LOCKING RINGS

IM-243R Locking Ring. Synthetic rubber, fits sockets IMM-323, IMM-363, SIMM-223 through SIMM-323 above, IM-724 through IM-736, SIM-725 and SIM-732 (page 36P) and hex head drivers IMA-283 and IMA-323 above.

IM-483R Locking Ring. Synthetic rubber, fits sockets IMM-413 through IMM-653 above, IM-738 through IM-764 and SIM-736 through SIM-772 (page 36P).

LOCKING PINS

IM-243P Steel Pin. Fits same units as IM-243R Lock Ring.

IM-243PR Rawhide Pin. Fits same units as IM-243R Lock Ring.

IM-483P Steel Pin. Fits same units as IM-483R Lock Ring.

IM-483PR Rawhide Pin. Fits same units as IM-483R Lock Ring.

INDUSTRIAL HANDLES AND ATTACHMENTS

1" Square Drive

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

Ⓐ RATCHET

Gear Action — 30 Teeth

Square drive has a locking button.

COMPLETE TOOL		HEAD ONLY				HANDLE ONLY	
Stock Number	Overall Length	Stock Number	Head Length	Head Thickness	Head Width	Stock Number	Handle Diameter
L-73-BH	35″	L-73B	7 13/16″	1 7/16″	3 1/8″	L-53H	1 1/8″

Ⓑ RATCHET ADAPTOR

Square drive has a locking button.

Stock Number	Square Drive	Outside Diameter	Overall Length
L-673	1″	3 1/4″	5″

Ⓒ SLIDING TEE HANDLES

Black Finish — Locking button on handles and on square drives.

COMPLETE TOOL				HEAD ONLY	HANDLE ONLY		
Stock Number	Square Drive	Overall Length	Handle Diameter	Stock Number	Stock Number	Length	Diameter
L-53	1″	30″	1 1/8″	L-53A	L-53H	30″	1 1/8″

Ⓓ IMPACT EXTENSION BARS

Stock Number	Square Drive	Shank Diameter	Overall Length
▲IM-123A	1″	1 1/8″	13 1/8″
▲IM-63A	1″	1 1/8″	7 1/8″

IM-63A and IM-123A — Use IM-243R Lock Ring and IM-243P or IM-243PR Lock Pin listed on page 32P.

Ⓔ IMPACT BALL-TYPE UNIVERSAL JOINTS

Stock Number	Square Drive	Outside Diameter	Overall Length
▲IMB-83	1″	2 1/8″	4 3/16″

IMB-83 — Use IM-243R Lock Ring and IM-243P or IM-243PR Lock Pin listed on page 32P.

Ⓕ IMPACT SOCKET-HANDLE ADAPTORS

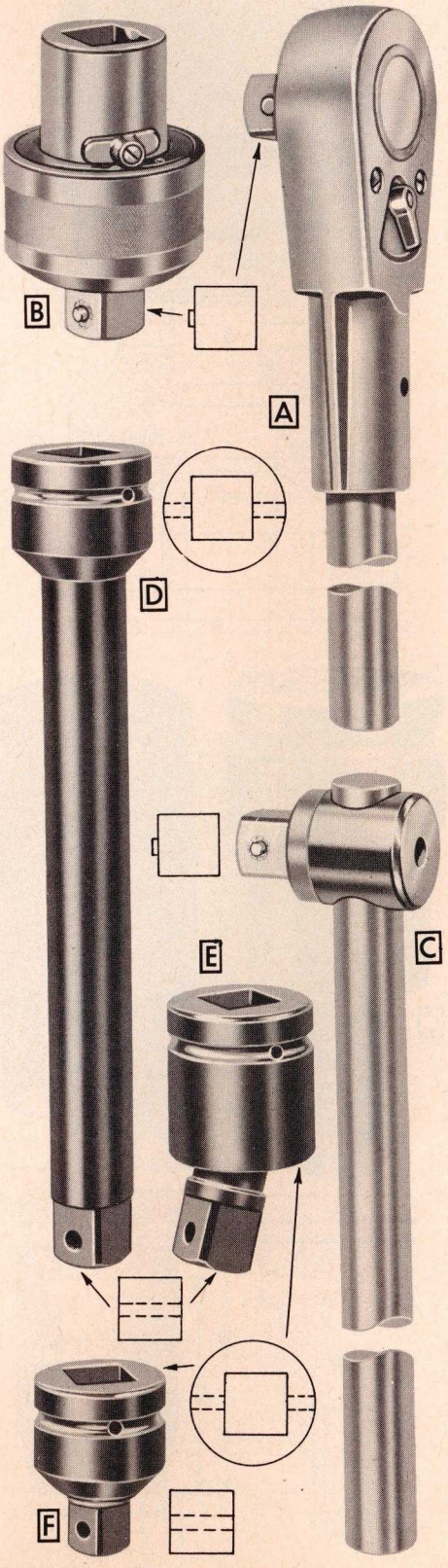
Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
▲IM-72	3/4″	1″	1 5/8″	2 9/16″
▲IM-124A	1″	3/4″	2 1/8″	2 13/16″
▲IM-35	1″	1 1/2″	2 1/4″	3 1/2″
▲IM-53	1 1/2″	1″	3 1/4″	4 1/4″

IM-72 — Use IM-182R Lock Ring and IM-182P or IM-182PR Lock Pin listed on page 28P.

IM-124A and IM-35 — Use IM-243R Lock Ring and IM-243P or IM-243PR Lock Pin listed on page 32P.

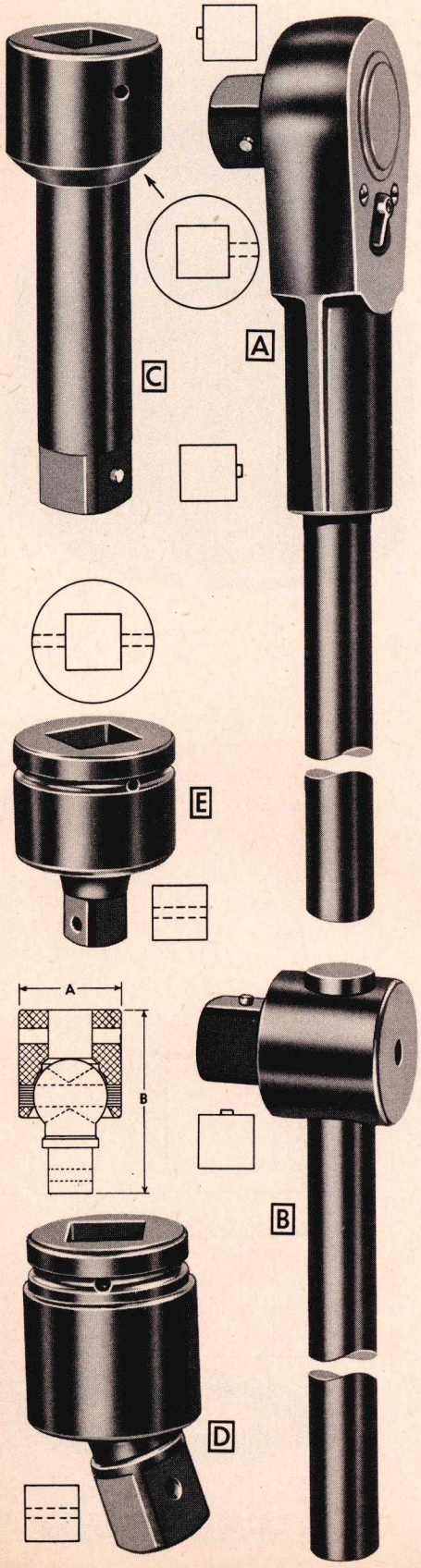
IM-53 — Use IM-445R Lock Ring and IM-445P Lock Pin listed on page 41P.

▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.



Snap-on Tools
SERVING INDUSTRY EVERYWHERE

INDUSTRIAL HANDLES AND ATTACHMENTS
1-1/2" Square Drive



Ⓐ RATCHET

Gear Action — 16 Teeth

Square drive has a locking button.

COMPLETE TOOL		HEAD ONLY				HANDLE ONLY	
Stock Number	Overall Length	Stock Number	Head Length	Head Depth	Head Width	Stock Number	Handle Diameter
L-78	42"	L-78Y	9 29/32"	1¾"	4 1/16"	L-55B	1⅜"

Ⓑ SLIDING TEE HANDLE

Black Finish — Locking button on handles and on square drives.

COMPLETE TOOL				HEAD ONLY	HANDLE ONLY		
Stock Number	Square Drive	Overall Length	Handle Diameter	Stock Number	Stock Number	Length	Diameter
L-55	1½"	36"	1⅜"	L-55A	L-55B	36"	1⅜"

Ⓒ POWER EXTENSION BARS

Fitted with locking button.

Stock Number	Square Drive	Shank Diameter	Overall Length
L-105	1½"	1 15/16"	10"
L-205	1½"	1 15/16"	20"

Ⓓ IMPACT BALL-TYPE UNIVERSAL JOINT

Stock Number	Square Drive	Outside Diameter A	Overall Length B
IMB-85	1½"	3¼"	5 13/16"

IMB-85 — Use IM-445R Lock Ring and IM-445P Lock Pin listed on page 41P.

Ⓔ IMPACT SOCKET-HANDLE ADAPTORS

Stock Number	Square Drive		Outside Diameter	Overall Length
	Female End	Male End		
IM-35	1"	1½"	2¼"	3½"
IM-53	1½"	1"	3¼"	4¼"

IM-35 — Use IM-243R Lock Ring and IM-243P or IM-243PR Lock Pin listed on page 32P.

IM-53 — Use IM-445R Lock Ring and IM-445P Lock Pin listed on page 41P.

INDUSTRIAL SOCKETS

1-1/2" Square Drive

POWER-IMPACT TYPE

Snap-on® Tools

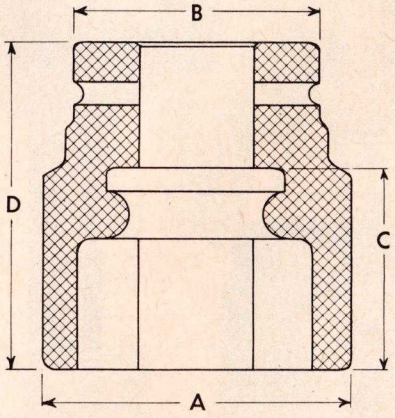
FOR PRODUCTION AND MAINTENANCE

For HEXAGON nuts

STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
1 3/8"	▲IM-445	2 7/8"	3 1/4"	1 1/2"	3 1/8"
1 7/16"	▲IM-465	2 7/8"	3 1/4"	1 1/2"	3 1/8"
1 1/2"	▲IM-485	2 7/8"	3 1/4"	1 1/2"	3 1/8"
1 9/16"	▲IM-505	2 7/8"	3 1/4"	1 1/2"	3 1/8"
1 5/8"	▲IM-525	3"	3 1/4"	1 5/8"	3 1/4"
1 11/16"	▲IM-545	3"	3 1/4"	1 5/8"	3 1/4"
1 3/4"	▲IM-565	3 1/8"	3 1/4"	1 5/8"	3 1/4"
1 13/16"	▲IM-585	3 1/8"	3 1/4"	1 5/8"	3 1/4"
1 7/8"	▲IM-605	3 1/8"	3 1/4"	1 3/4"	3 3/8"
1 15/16"	▲IM-625A	3 1/8"	3 1/4"	1 3/4"	3 3/8"
2"	▲IM-645	3 1/4"	3 1/4"	1 7/8"	3 1/2"
2 1/16"	▲IM-665	3 1/4"	3 1/4"	1 7/8"	3 1/2"
2 1/8"	▲IM-685	3 1/2"	3 1/4"	2"	3 5/8"
2 3/16"	▲IM-705	3 1/2"	3 1/4"	2"	3 5/8"
2 1/4"	▲IM-725A	3 3/4"	3 1/4"	2 1/8"	3 3/4"
2 5/16"	▲IM-745	3 3/4"	3 1/4"	2 1/8"	3 3/4"
2 3/8"	▲IM-765	3 7/8"	3 1/4"	2 1/4"	3 7/8"
2 7/16"	▲IM-785	3 7/8"	3 1/4"	2 1/4"	3 7/8"
2 1/2"	▲IM-805	4"	3 1/4"	2 3/8"	4"
2 9/16"	▲IM-825	4"	3 1/4"	2 3/8"	4"
2 5/8"	▲IM-845	4 1/8"	3 1/4"	2 1/2"	4 1/8"
2 11/16"	▲IM-865	4 1/8"	3 1/4"	2 1/2"	4 1/8"
2 3/4"	▲IM-885	4 1/4"	3 1/4"	2 5/8"	4 1/4"
2 13/16"	▲IM-905	4 1/2"	3 1/4"	2 5/8"	4 1/4"
2 7/8"	▲IM-925	4 1/2"	3 1/4"	2 5/8"	4 1/4"
2 15/16"	▲IM-945	4 1/2"	3 1/4"	2 3/4"	4 3/8"
3"	▲IM-965	4 3/4"	3 1/4"	2 7/8"	4 1/2"
3 1/16"	▲IM-985	4 3/4"	3 1/4"	2 7/8"	4 1/2"
3 1/8"	▲IM-1005	4 3/4"	3 1/4"	3"	4 5/8"
3 3/16"	▲IM-1025	4 3/4"	3 1/4"	3"	4 5/8"
3 1/4"	▲IM-1045	5"	3 1/4"	3 1/8"	4 3/4"
3 5/16"	▲IM-1065	5"	3 1/4"	3 1/8"	4 3/4"
3 3/8"	▲IM-1085	5"	3 1/4"	3 1/8"	4 3/4"
3 7/16"	▲IM-1105	5"	3 1/4"	3 1/8"	4 3/4"
3 1/2"	▲IM-1125	5 1/8"	3 1/4"	3 3/8"	5"
3 9/16"	▲IM-1145	5 1/8"	3 1/4"	3 3/8"	5"
3 5/8"	▲IM-1165	5 1/8"	3 1/4"	3 3/8"	5"
3 3/4"	▲IM-1205	5 1/2"	3 1/4"	3 5/8"	5 1/4"
3 13/16"	▲IM-1225	5 1/2"	3 1/4"	3 5/8"	5 1/4"
3 7/8"	▲IM-1245	5 1/2"	3 1/4"	3 5/8"	5 1/4"
3 15/16"	▲IM-1265	5 3/4"	3 1/4"	3 7/8"	5 1/2"
4"	▲IM-1285	5 3/4"	3 1/4"	3 7/8"	5 1/2"
4 1/16"	▲IM-1305	5 3/4"	3 1/4"	3 7/8"	5 1/2"
4 1/8"	▲IM-1325	6"	3 1/4"	4"	5 5/8"
4 3/16"	▲IM-1345	6"	3 1/4"	4"	5 5/8"
4 1/4"	▲IM-1365	6"	3 1/4"	4"	5 5/8"
4 5/16"	▲IM-1385	6 1/4"	3 1/4"	4 1/8"	5 3/4"
4 3/8"	▲IM-1405	6 1/4"	3 1/4"	4 1/8"	5 3/4"
4 7/16"	▲IM-1425	6 1/4"	3 1/4"	4 1/8"	5 3/4"
4 1/2"	▲IM-1445	6 1/4"	3 1/4"	4 1/8"	5 3/4"
4 5/8"	▲IM-1485	6 1/2"	3 1/4"	4 3/8"	6"
4 3/4"	▲IM-1525	6 1/2"	3 1/4"	4 3/8"	6"





NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ Federal Specs: GGG-W-660 applies to the items on this page as indicated by symbol ▲.

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

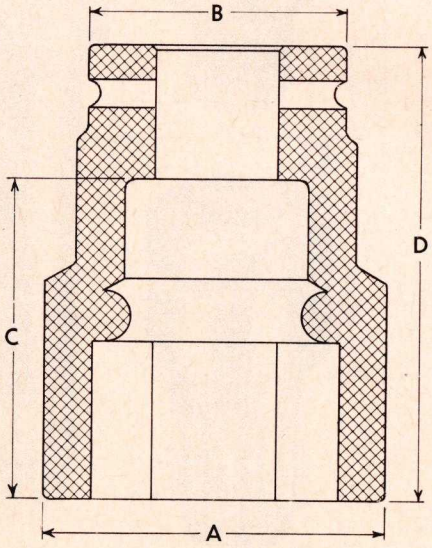
INDUSTRIAL SOCKETS

1-1/2" Square Drive

POWER-IMPACT TYPE

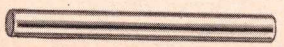


A





B



C

For HEXAGON nuts

Ⓐ BOLT CLEARANCE LENGTH SOCKETS

SINGLE HEX		Outside Diameter			
Wrench Size	Stock Number	Socket End A	Handle End B	Bolt Clearance Depth C	Overall Length D
1⅜"	▲SIM-445	2⅞"	3¼"	2⅜"	4"
1 7/16"	▲SIM-465	2⅞"	3¼"	2⅜"	4"
1½"	▲SIM-485	2⅞"	3¼"	2⅜"	4"
1 9/16"	▲SIM-505	2⅞"	3¼"	2⅜"	4"
1⅝"	▲SIM-525	3"	3¼"	2⅝"	4¼"
1 11/16"	▲SIM-545	3"	3¼"	2⅝"	4¼"
1¾"	▲SIM-565	3"	3¼"	2⅝"	4¼"
1 13/16"	▲SIM-585	3⅛"	3¼"	2¾"	4⅜"
1⅞"	▲SIM-605	3⅛"	3¼"	2¾"	4⅜"
2"	▲SIM-645	3¼"	3¼"	2⅞"	4½"
2 1/16"	▲SIM-665	3¼"	3¼"	2⅞"	4½"
2⅛"	▲SIM-685	3½"	3¼"	3⅛"	4¾"
2 3/16"	▲SIM-705	3½"	3¼"	3⅛"	4¾"
2¼"	▲SIM-725	3¾"	3¼"	3⅜"	5"
2 5/16"	▲SIM-745	3¾"	3¼"	3⅜"	5"
2⅜"	▲SIM-765	3¾"	3¼"	3⅜"	5"
2 7/16"	▲SIM-785	3¾"	3¼"	3 5/16"	5"
2½"	▲SIM-805	4"	3¼"	3½"	5¼"
2 9/16"	▲SIM-825	4"	3¼"	3½"	5¼"
2⅝	▲SIM-845	4¼"	3¼"	3¾"	5½"
2 11/16"	▲SIM-865	4¼"	3¼"	3¾"	5½"
2¾"	▲SIM-885	4½"	3¼"	3⅞"	5⅝"
2 13/16"	▲SIM-905	4½"	3¼"	3⅞"	5⅝"
2⅞"	▲SIM-925	4½"	3¼"	4 1/16"	5¾"
2 15/16"	▲SIM-945	4½"	3¼"	4 1/16"	5¾"
3"	▲SIM-965	4¾"	3¼"	3 15/16"	5⅞"
3 1/16"	▲SIM-985	4¾"	3¼"	3 15/16"	5⅞"
3⅛"	▲SIM-1005	4¾"	3¼"	4 3/16"	6"
3 3/16"	▲SIM-1025	4¾"	3¼"	4 3/16"	6"
3¼"	▲SIM-1045	5"	3¼"	4⅜"	6¼"
3 5/16"	▲SIM-1065	5"	3¼"	4⅜"	6¼"
3⅜"	▲SIM-1085	5"	3¼"	4⅜"	6¼"
3 7/16"	▲SIM-1105	5"	3¼"	4⅜"	6¼"
3½"	▲SIM-1125	5⅛"	3¼"	4⅜"	6⅜"
3 9/16"	▲SIM-1145	5⅛"	3¼"	4⅜"	6⅜"
3⅝"	▲SIM-1165	5½"	3¼"	4⅞"	6¾"
3 11/16"	▲SIM-1185	5½"	3¼"	4⅞"	6¾"
3¾"	▲SIM-1205	5½"	3¼"	4 13/16"	6¾"
2 13/16"	▲SIM-1225	5½"	3¼"	4 13/16"	6¾"
3⅞"	▲SIM-1245	5½"	3¼"	4 13/16"	6¾"
3 15/16"	▲SIM-1265	5¾"	3¼"	5 5/16"	7¼"
4"	▲SIM-1285	5¾"	3¼"	5 5/16"	7¼"
4 1/16"	▲SIM-1305	5¾"	3¼"	5 5/16"	7¼"
4⅛"	▲SIM-1325	6"	3¼"	5½"	7½"
4 3/16"	▲SIM-1345	6"	3¼"	5½"	7½"
4¼"	▲SIM-1365	6"	3¼"	5¾"	7¾"
4½"	▲SIM-1445	6¼"	3¼"	5¾"	7¾"
4⅝"	▲SIM-1485	6½"	3¼"	5⅞"	8"
4¾"	▲SIM-1525	6½"	3¼"	5 13/16"	8"

Locking Ring and Pin

Ⓑ **IM-445R Locking ring,** synthetic rubber, fits all 1½" square drive sockets.

Ⓒ **IM-445P Steel locking pin,** fits all 1½" square drive sockets.

Ⓒ **IM-445PR Rawhide locking pin,** fits all 1½" square drive sockets.

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ Federal Specs: GGG-W-660 applies to the items on this page indicated by symbol ▲.

INDUSTRIAL UNITS

WITH NO. 5 INVOLUTE SPLINE DRIVE IMPACT TYPE

Snap-on Tools

FOR PRODUCTION AND MAINTENANCE

Ⓐ SPLINE DRIVE UNIVERSAL JOINT

IMS-8 Spline Drive Universal Joint. This Universal is block-type construction, 7¾" overall length, 2-13/16" outside diameter at the female drive end. Both the male and female drives have a 14-tooth involute spline configuration.

Ⓑ SPLINE TO SQUARE DRIVE ADAPTOR

IMSA-3 Adaptor has a No. 5, 14-tooth involute spline drive female opening and a 1" square male drive end. The unit adapts spline drive impact wrenches to accept standard 1" square drive power-impact socket wrenches. Companies converting to spline drive power tools can now use their 1" square drive sockets and attachments on their new spline drive impact wrenches. Overall length is 3⅜".

Ⓒ SQUARE DRIVE TO SPLINE ADAPTOR

IMSA-30 Adaptor has a 1" square female opening and a No. 5, 14-tooth involute spline drive male end. It is designed to adapt 1" square drive impact wrenches to accept our standard spline drive sockets and attachments. One inch square drive ratchets and handles can be used with this adaptor on spline drive socket wrenches. Overall length is 4⅛".

Ⓓ SPLINE DRIVE EXTENSION

IMSX-8 8" extension, both ends have a No. 5, 14-tooth involute spline drive, one male end, one female end. Designed for use with most spline drive impact wrenches and sockets, it provides additional length required for many applications. Overall length of this unit is 8".

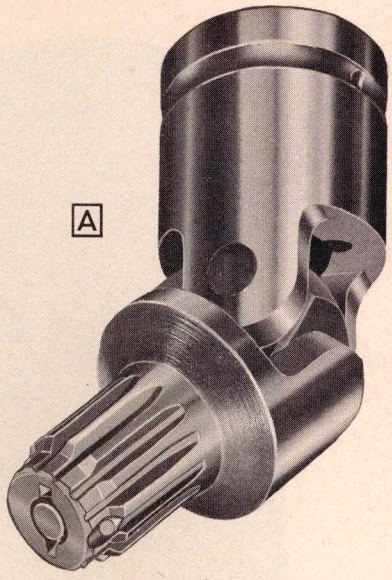
Ⓔ COMBINATION SPLINE SOCKETS

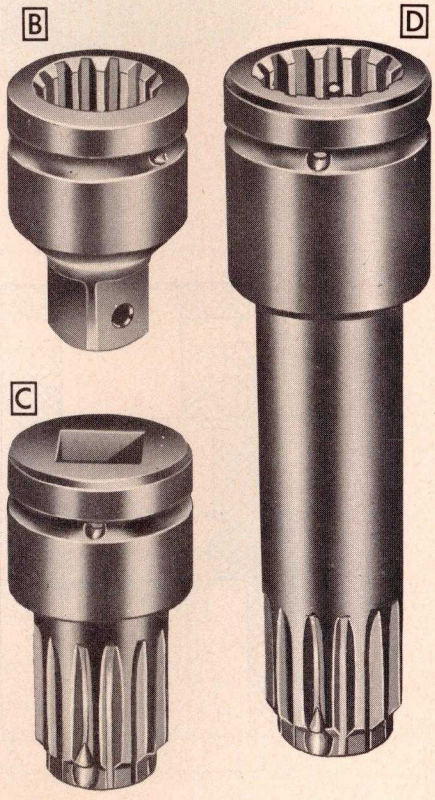
These sockets were originally designed for use on the high tension spline fasteners found on aircraft and missiles. The spline wrenching design has proven more than adequate for any of the highest strength bolts used today and has even higher potential for greater strength levels.

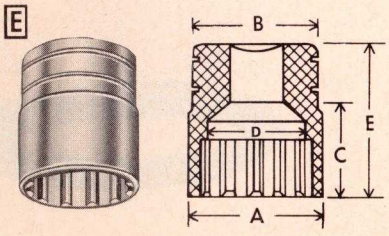
A unique feature of the new sockets is their ability to turn both single and double hex nuts, in addition to the new spline nuts. For example, the FES-60 Socket can turn a ⅜" single hex, ⅜" double hex, or a number 6 spline nut.

Wrench Size		Stock No.	Sq. Drive	Diameter		Bolt Clearance Depth C	Bolt Clearance Diameter D	Overall Length E
Spline	Hex			Socket End A	Handle End B			
# 4	¼"	**TES-4**	¼"	⅜"	7/16"	35/64"	7/32"	⅞"
# 5	5/16"	**TES-5**	¼"	15/32"	½"	35/64"	9/32"	⅞"
# 6	⅜"	**FES-60**	⅜"	35/64"	21/32"	15/32"	11/32"	29/32"
# 9	9/16"	**FES-90**	⅜"	13/16"	13/16"	1 1/16"	17/32"	1½"
#15	⅝"	**SES-151**	½"	1 9/32"	1 7/32"	15/16"	11/16"	1½"

▲ **Federal Specs: GGG-W-641d applies to the items on this page indicated by symbol ▲.**







Snap-on Tools
SERVING INDUSTRY EVERYWHERE

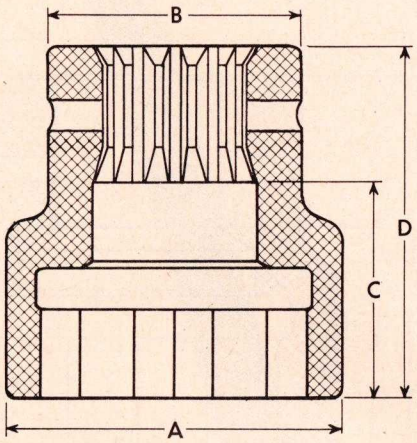
INDUSTRIAL SOCKETS

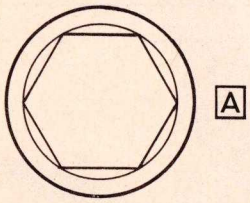
WITH NO. 5 INVOLUTE SPLINE DRIVE

IMPACT TYPE

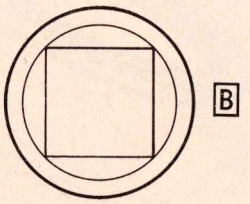


Ⓐ Ⓑ Ⓒ

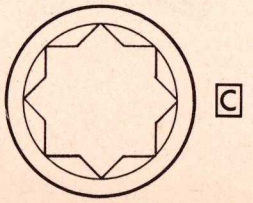




Ⓐ



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Ⓒ

The involute spline drive consists of 14 grooves or "splines" which are broached in the drive end of the socket. This construction greatly reduces socket wear as pressure is more evenly distributed.

Marking on the outside of the sockets indicated by an asterisk allow the operator to count the number of turns as they are made. This is especially important in tightening high tensile bolts. A drilled hole through the side of the drive end of the socket, combined with a recessed groove on the outside, permits use of a locking pin and ring for added safety, if desired.

For HEXAGON nuts

Ⓐ STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth "C"	Overall Length "D"
Wrench Size	Stock No.	Socket End "A"	Handle End "B"		
1⅛"	*IMS-367	1 13/16"	2¼"	1½"	2¾"
1¼"	*IMS-407	2"	2⅜"	1 11/16"	2 15/16"
1 5/16"	*IMS-427	2 1/16"	2⅜"	1 11/16"	2 15/16"
1 7/16"	*IMS-467	2¼"	2⅜"	1 11/16"	2 15/16"
1½"	*IMS-487	2¼"	2⅜"	1¾"	3"
1⅝"	*IMS-527	2 7/16"	2⅜"	1 13/16"	3⅛"
1 11/16"	*IMS-547	2 9/16"	2⅜"	1 13/16"	3⅛"
1 13/16"	*IMS-587	2¾"	2⅜"	1 13/16"	2 5/16"
1⅞"	*IMS-607	2¾"	2⅜"	1⅞"	3 5/16
2"	*IMS-647	3"	2⅜"	1 11/16"	3½"
2⅛"	IMS-687	3⅛"	2⅜"	1 29/32"	3⅝"
2 3/16"	IMS-707	3¼"	2⅜"	1⅞"	3⅝"
2¼"	IMS-727	3¼"	2⅜"	1⅞"	3⅝"
2 5/16"	IMS-747	3⅜"	2⅜"	2 1/32"	3¾"
2⅜"	IMS-767	3½"	2⅜"	2 1/32"	3¾"
2 9/16"	IMS-827	3¾"	2⅜"	2¼"	4"
2¾"	IMS-887	3⅞"	2⅜"	2⅛"	4⅛"

For SQUARE nuts

Ⓑ AND Ⓒ STANDARD LENGTH SOCKETS

Ⓑ SINGLE SQUARE		Outside Diameter		Bolt Clearance Depth "C"	Overall Length "D"
Wrench Size	Stock No.	Socket End "A"	Handle End "B"		
1⅛"	IMS-536	2¼"	2¼"	1 9/16"	2¾"
1¼"	IMS-540	2⅜"	2⅜"	1⅝"	2 15/16"
1 5/16"	IMS-542	2 7/16"	2⅜"	1¾"	2 15/16"
1½"	IMS-548	2¾"	2⅜"	1¾"	3"
Ⓒ DOUBLE SQUARE					
1⅝"	IMS-552	3"	2⅜"	1⅞"	3⅛"
1 13/16"	IMS-558	3¼"	2⅜"	2 1/16"	3 5/16"
1⅞"	IMS-560	3⅜"	2⅜"	2 1/16"	3 5/16"
2"	IMS-564	3⅝"	2⅜"	2 3/16"	3½"

Note: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

LOCKING RING AND PIN

IM-483R Locking Ring, synthetic rubber, fits all above sockets.
IM-483P Steel Locking Pin, fits all above sockets.
IM-483PR Rawhide Locking Pin, fits all above sockets.

INDUSTRIAL SOCKETS
2-1/2" Square Drive
POWER-IMPACT TYPE

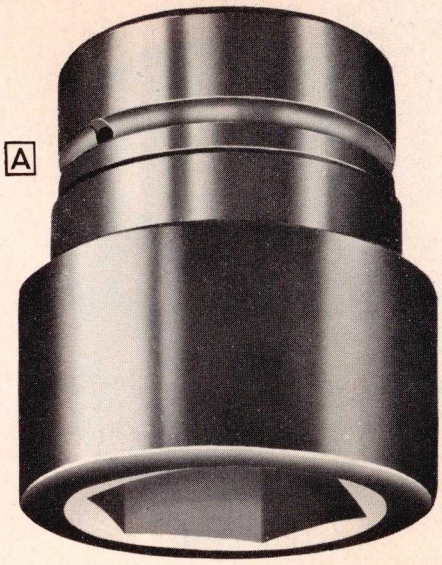
Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

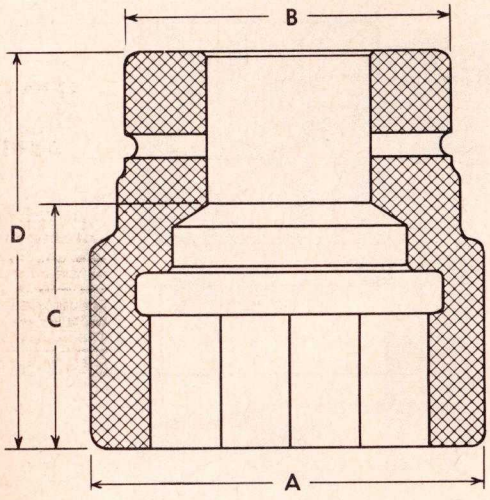
For HEXAGON nuts

Ⓐ STANDARD LENGTH SOCKETS

SINGLE HEX		Outside Diameter		Bolt Clearance Depth C	Overall Length D
Wrench Size	Stock Number	Socket End A	Handle End B		
2¼"	IM-729	4⅜"	5"	3"	5½"
2⅜"	IM-769	4⅜"	5"	3"	5½"
2⅝"	IM-849	4⅜"	5"	3"	5½"
2¾"	IM-889	5"	5"	3⅛"	5¾"
2 15/16"	IM-949	5"	5"	3⅛"	5¾"
3"	IM-969	5"	5"	3⅛"	5¾"
3⅛"	IM-1009	5"	5"	3⅛"	5¾"
3¼"	IM-1049	5½"	5"	3⅜"	5¾"
3⅜"	IM-1089	5½"	5"	3⅜"	5¾"
3½"	IM-1129	5½"	5"	3⅜"	5¾"
3⅝"	IM-1169	5½"	5"	3⅜"	5¾"
3¾"	IM-1209	6¼"	5"	3 13/16"	6¼"
3⅞"	IM-1249	6¼".	5"	3 13/16"	6¼"
4"	IM-1289	6¼"	5"	3 13/16"	6¼"
4⅛"	IM-1329	6¼"	5"	3 13/16"	6¼"
4¼"	IM-1369	7"	5"	4¼"	6¾"
4⅜"	IM-1409	7"	5"	4¼"	6¾"
4⅝"	IM-1489	7"	5"	4¼"	6¾"
4⅞"	IM-1569	7½"	5"	5"	7½"
5"	IM-1609	7½"	5"	5"	7½"
5¼"	IM-1689	7½"	5"	5"	7½"
5⅜"	IM-1729	7¾"	6"	4¾"	7⅝"
5 7/16"	IM-1749	7¾"	6"	5¼"	7⅝"
5½"	IM-1769	7¾"	6"	5¼"	7⅝"
5⅝"	IM-1809	7¾"	6"	5¼"	7⅝"

Additional sizes available on special order





LOCKING RING AND PIN

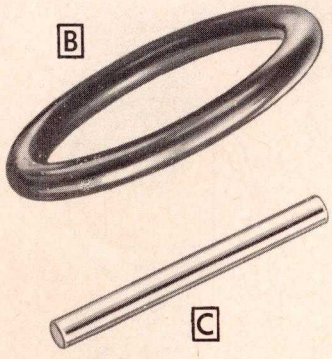
Ⓑ **IM-729R Locking ring,** synthetic rubber, fits sockets IM-729 through IM-1689.
IM-1729RA Locking ring, synthetic rubber, fits sockets IM-1729 through IM-1809.

Ⓒ **IM-729P Steel locking pin,** fits all 2½" square drive sockets.

Ⓒ **IM-729PR Rawhide locking pin,** fits sockets IM-729 through IM-1689.

Ⓒ **IM-1729PR Rawhide locking pin,** fits sockets IM-1729 through IM-1809.

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.



Snap-on Tools
SERVING INDUSTRY EVERYWHERE

DOUBLE OFFSET "BOXOCKET" WRENCHES



These wrenches are identical in every way to the chrome plated wrenches shown in general catalog with exception of the finish. The lower cost of black finish permits us to pass substantial savings on to you. If the appearance and rust resistant qualities of chrome plating are of less importance to you than cost, here is one place you can cut cost without a single doubt about quality.

DOUBLE HEXAGON OFFSET SERIES

FLANK DRIVE

Black Finish

DOUBLE HEXAGON Wrench Size	Stock No.	Head Depths A	Head Diameters B	Overall Length
3/8" & 7/16"	GXV-1214	19/64"	9/16" & 5/8"	7 9/16"
7/16" & 1/2"	GXV-1416	5/16"	5/8" & 3/4"	8 3/16"
1/2" & 9/16"	GXV-1618	11/32"	3/4" & 13/16"	8 3/4"
9/16" & 5/8"	GXV-1820	3/8"	13/16" & 29/32"	9 3/8"
5/8" & 11/16"	GXV-2022	13/32"	29/32" & 1"	9 15/16"
5/8" & 3/4"	GXV-2024	7/16"	29/32" & 1 3/32"	10"
11/16" & 13/16"	GXV-2226	1/2"	1" & 1 5/32"	10 1/2"
3/4" & 7/8"	GXV-2428	1/2"	1 3/32" & 1 1/4"	11"
7/8" & 15/16"	GXV-2830	17/32"	1 1/4" & 1 11/32"	13"
15/16" & 1"	GXV-3032	9/16"	1 11/32" & 1 7/16"	14"
1" & 1 1/8"	GXV-3236	21/32"	1 7/16" & 1 5/8"	15"
1 1/16" & 1 1/8"	GXV-3436	21/32"	1 1/2" & 1 5/8"	15"
1 1/16" & 1 1/4"	GXV-3440	11/16"	1 1/2" & 1 25/32"	16"
1 3/16" & 1 5/16"	GXV-3842	11/16"	1 11/16" & 1 7/8"	17"
1 1/4" & 1 3/8"	*GXV-4044	23/32"	1 25/32" & 1 31/32"	18"
1 3/8" & 1 1/2"	*GXV-4448	13/16"	1 31/32" & 2 5/32"	19"
1 7/16" & 1 5/8"	*GXV-4652	7/8"	2 1/16" & 2 5/16"	21"

* This wrench has standard double hex openings — not Flank Drive configuration.

GXV-617-K Set. Seventeen wrenches — one each of the BOXOCKETS listed above, in the C-190B kit bag.

GXV-617 Set. Above set without the kit bag.

GXV-611B-K Set. Eleven wrenches — GXV-1214, GXV-1416, GXV-1618, GXV-1820, GXV-2024, GXV-2226, GXV-2428, GXV-2830, GXV-3032, GXV-3236 and GXV-3440, in the C-113B kit bag.

GXV-611B Set. Above set without the kit bag.

GXV-608B-K Set. Eight wrenches — GXV-1214, GXV-1618, GXV-1820, GXV-2024, GXV-2226, GXV-2830, GXV-3236, and GXV-3440, in the C-83B kit bag.

GXV-608B Set. Above set without the kit bag.

GXV-605-K Set. Six wrenches, GXV-1214, GXV-1618, GXV-2022, GXV-2428 and GXV-3032, in the C-53B kit bag.

GXV-605 Set. Above set without the kit bag.

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

COMBINATION WRENCHES

Snap-on® Tools
FOR PRODUCTION AND MAINTENANCE

These black finish SNAP-ON Combination Wrenches are identical in quality to the chrome plated tools in general catalogue — except in finish. Flawless chromium plating provides the best protection against rust as well as the best appearance — it also costs money. Black finish passes substantial saving on to you.

Ⓐ SHORT SERIES
FLANK DRIVE

DOUBLE HEXAGON		Head Depths		Head Diameters		
Wrench Size	Stock No.	Box End A	Open End B	Box End C	Open End D	Overall Length
5/16"	GOEX-100	7/32"	11/64"	15/32"	21/32"	5"
3/8"	GOEX-120	17/64"	13/64"	17/32"	25/32"	5 7/32"
7/16"	GOEX-140	19/64"	15/64"	21/32"	29/32"	5 7/16"
1/2"	GOEX-160	5/16"	1/4"	23/32"	1 1/16"	5 23/32"
9/16"	GOEX-180	21/64"	17/64"	13/16"	1 3/16"	6"
5/8"	GOEX-200	11/32"	9/32"	7/8"	1 5/16"	6 5/16"
11/16"	GOEX-220	23/64"	19/64"	31/32"	1 7/16"	6 19/32"
3/4"	GOEX-240	3/8"	5/16"	1 1/16"	1 1/2"	6 7/8"

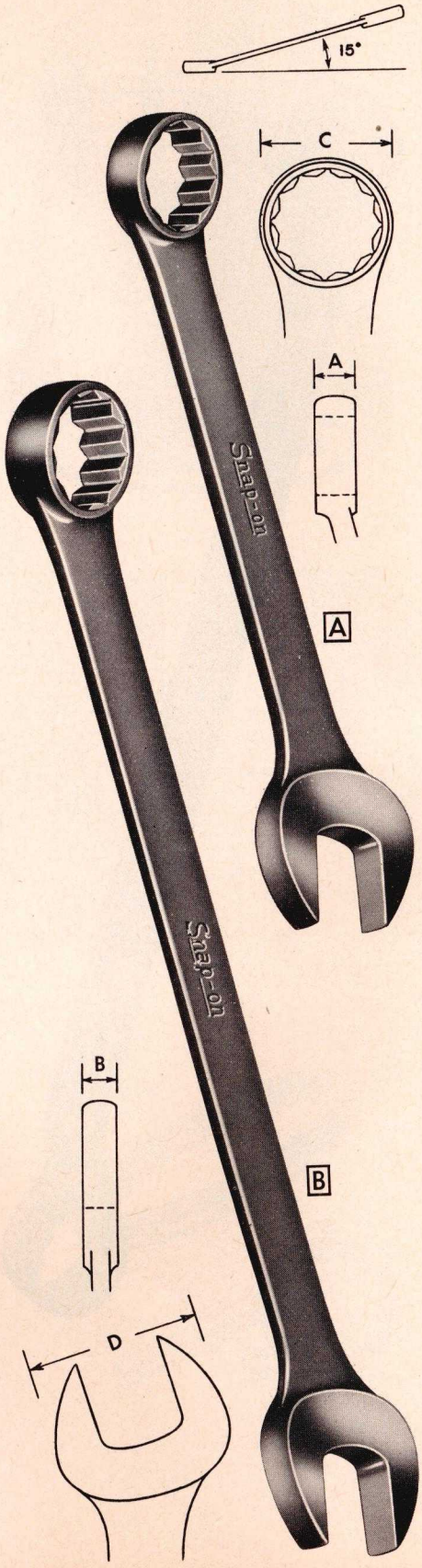
GOEXS-708-K Set. Contains one each of the above wrenches in C-80D kit bag.
GOEXS-708 Set. Above set without the kit bag.

Ⓑ LONG SERIES
FLANK DRIVE

DOUBLE HEXAGON		Head Depths		Head Diameters		
Wrench Size	Stock No.	Box End A	Open End B	Box End C	Open End D	Overall Length
3/8"	GOEX-12	5/16"	15/64"	19/32"	25/32"	6 9/16"
7/16"	GOEX-14	5/16"	15/64"	21/32"	29/32"	7 3/32"
1/2"	GOEX-16	5/16"	1/4"	3/4"	1 1/16"	7 21/32"
9/16"	GOEX-18	11/32"	17/64"	27/32"	1 3/16"	7 3/4"
5/8"	GOEX-20	13/32"	9/32"	15/16"	1 5/16"	8 1/4"
11/16"	GOEX-22	7/16"	19/64"	1"	1 7/16"	9 1/4"
3/4"	GOEX-24	7/16"	5/16"	1 3/32"	1 9/16"	9 3/4"
13/16"	GOEX-26	1/2"	3/8"	1 3/16"	1 11/16"	11"
7/8"	GOEX-28	17/32"	3/8"	1 9/32"	1 13/16"	11 7/8"
15/16"	GOEX-30	9/16"	3/8"	1 11/32"	1 15/16"	13"
1"	GOEX-32	5/8"	7/16"	1 7/16"	2 1/16"	14"
1 1/16"	GOEX-34	11/16"	15/32"	1 9/16"	2 3/16"	15"
1 1/8"	GOEX-36	3/4"	1/2"	1 21/32"	2 5/16"	15 7/8"
1 1/4"	GOEX-40	3/4"	1/2"	1 27/32"	2 9/16"	17"
1 5/16"	GOEX-42	3/4"	1/2"	1 29/32"	2 11/16"	18"
1 3/8"	*GOEX-44	3/4"	1/2"	2"	2 13/16"	19"
1 7/16"	*GOEX-46	7/8"	9/16"	2 1/16"	2 15/16"	20 1/16"
1 1/2"	*GOEX-48	7/8"	5/8"	2 5/32"	3 1/16"	21 1/16"
1 5/8"	*GOEX-52	7/8"	5/8"	2 5/16"	3 5/16"	22 1/8"

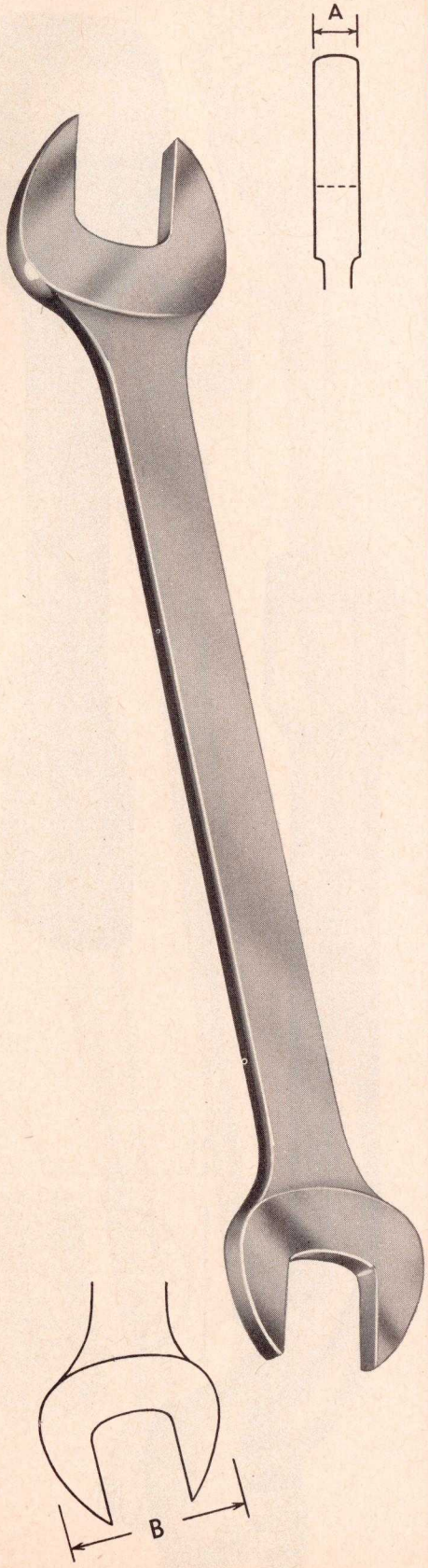
* Has standard double hex box opening — not Flank Drive configuration.

GOEX-719-K Set. Nineteen wrenches — GOEX-12 through GOEX-52 long series, in C-190B kit bag.
GOEX-719 Set. Above set without the kit bag.
GOEX-714-K Set. Fourteen wrenches. GOEX-12 through GOEX-40 long series, in C-141B kit bag.
GOEX-714 Set. Above set without the kit bag.
GOEX-711-K Set. Eleven wrenches. GOEX-12 through GOEX-32 long series, in C-114B kit bag.
GOEX-711 Set. Above set without the kit bag.
GOEX-709-K Set. Nine wrenches — GOEX-12, 14, 16, 18, 20, 22, 24, 26 and 28, in C-93D kit bag.
GOEX-709 Set. Above set without the kit bag.
NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.



Snap-on Tools
SERVING INDUSTRY EVERYWHERE

OPEN END WRENCHES



These wrenches differ from our chrome plated line only in handle design and finish. The lower cost industrial finish permits us to pass substantial savings on to you. If appearance and rust resistant qualities of chrome plating are of less importance to you than cost, here is one place you can cut cost without a single doubt about quality.

STANDARD OPEN ENDS

Industrial Finish

Wrench Sizes	Stock Number	Head Depth A	Head Diameters B	Overall Length
1/4" & 5/16"	S-810B	5/32"	17/32" & 21/32"	4"
5/16" & 3/8"	S-1012B	3/16"	21/32" & 25/32"	4 1/2"
3/8" & 7/16"	S-1214B	3/16"	25/32" & 29/32"	5"
7/16" & 1/2"	S-1416B	7/32"	29/32" & 1 1/32"	5 1/2"
1/2" & 9/16"	S-1618B	7/32"	1 1/16" & 1 3/16"	6"
9/16" & 5/8"	S-1820B	1/4"	1 3/16" & 1 5/16"	6 1/2"
19/32" & 11/16"	S-1922B	1/4"	1 5/16" & 1 7/16"	7"
5/8" & 11/16"	S-2022B	1/4"	1 5/16" & 1 7/16"	7"
5/8" & 3/4"	S-2024B	9/32"	1 5/16" & 1 9/16"	7 3/4"
11/16" & 3/4"	S-2224B	9/32"	1 7/16" & 1 9/16"	8 3/8"
3/4" & 7/8"	S-2428B	5/16"	1 9/16" & 1 13/16"	10"
25/32" & 13/16"	S-2526B	5/16"	1 9/16" & 1 11/16"	9 1/4"
7/8" & 15/16"	S-2830B	11/32"	1 13/16" & 1 15/16"	11 1/8"
7/8" & 1"	S-2832B	11/32"	1 13/16" & 1 31/32"	11 1/8"
15/16" & 1"	S-3032B	11/32"	1 15/16" & 2 3/16"	12 1/2"
1" & 1 1/8"	S-3236B	3/8"	2 1/8" & 2 5/16"	13 1/4"
1 1/16" & 1 1/8"	S-3436B	3/8"	2 1/8" & 2 5/16"	13 1/4"
1 1/16" & 1 1/4"	S-3440B	7/16"	2 3/16" & 2 9/16"	14"
1 3/16" & 1 5/16"	S-3842B	1/2"	2 9/16" & 2 13/16"	15 1/2"
1 1/4" & 1 3/8"	S-4044B	1/2"	2 9/16" & 2 13/16"	15 1/2"
1 3/8" & 1 1/2"	S-4448B	1/2"	2 3/4" & 3"	16 1/4"
1 7/16" & 1 5/8"	S-4652B	9/16"	2 15/16" & 3 5/16"	17"

OEB-820-K Set. Twenty wrenches. One each of those listed above except S-2022B and S-2832B in C-200 kit bag.

OEB-820 Set. Above set without the kit bag.

OEB-815-K Set. Fifteen wrenches — S-810B, S-1012B, S-1214B, S-1416B, S-1618B, S-1820B, S-1922B, S-2024B, S-2428B, S-2526B, S-2830B, S-3032B, S-3236B, S-3436B, S-3440B, in C-150B kit bag.

OEB-815 Set. Above set without the kit bag.

OEB-811-K Set. Eleven wrenches — S-810B, S-1012B, S-1214B, S-1416B, S-1618B, S-1820B, S-1922B, S-2024B, S-2526B, S-2428B, S-3032B, in C-116B kit bag.

OEB-811 Set. Above set without the kit bag.

OEB-808-K Set. Eight wrenches — S-810B, S-1214B, S-1618B, S-2022B, S-2526B, S-2428B, S-3032B, S-3440B, in C-87 kit bag.

OEB-808 Set. Above set without the kit bag.

OEB-806-K Set. Six wrenches — S-1214B, S-1618B, S-1922B, S-2024B, S-2526B, S-2830B, in C-62B kit bag.

OEB-806 Set. Above set without the kit bag.

NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

SLEDGE "BOXOCKETS"
STRIKING "BOXOCKETS"

Snap-on Tools
FOR PRODUCTION AND MAINTENANCE

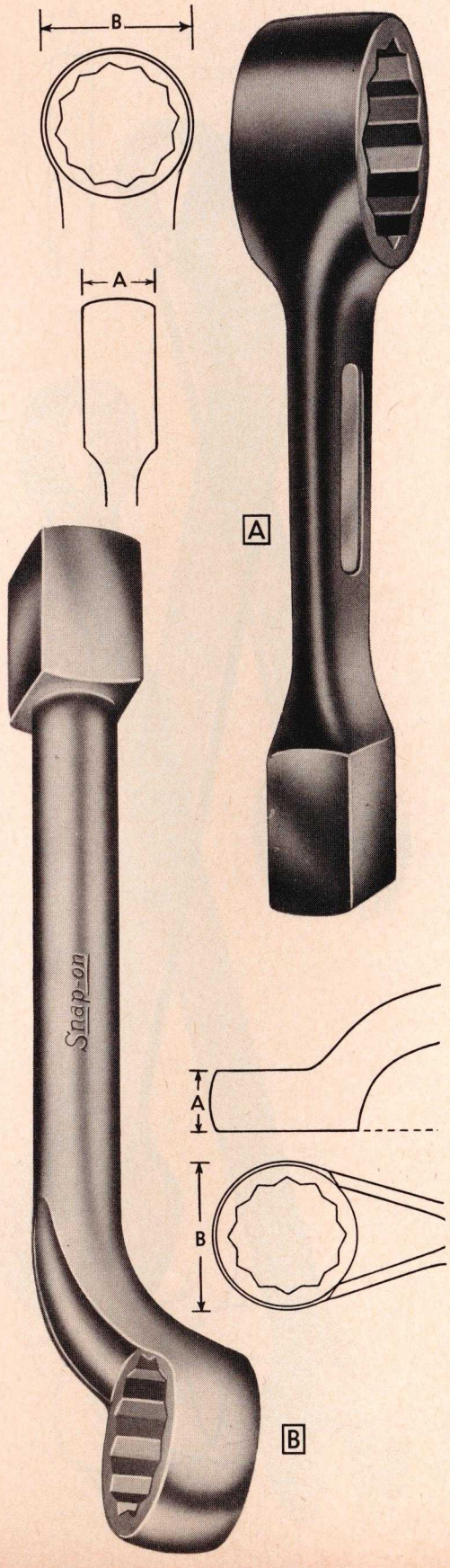
Ⓐ SLEDGE TYPE "BOXOCKETS"

DOUBLE HEXAGON		Head	Head	Overall
Wrench Size	Stock No.	Depth A	Diameter B	Length
1 7/16"	▲DX-146	1"	2 1/4"	7 5/8"
1 1/2"	▲DX-148	1"	2 1/4"	7 3/4"
1 5/8"	▲DX-152	1 1/8"	2 7/16"	7 23/32"
1 11/16"	▲DX-154	1 1/8"	2 1/2"	7 3/4"
1 13/16"	▲DX-158	1 1/4"	2 11/16"	7 27/32"
1 7/8"	▲DX-160	1 1/4"	2 3/4"	7 27/32"
2"	▲DX-164	1 3/8"	2 15/16"	11 15/32"
2 1/16"	▲DX-166	1 3/8"	3"	11 1/2"
2 3/16"	▲DX-170	1 1/2"	3 3/16"	11 19/32"
2 1/4"	▲DX-172	1 1/2"	3 1/4"	11 5/8"
2 3/8"	▲DX-176	1 5/8"	3 7/16"	11 23/32"
2 7/16"	▲DX-178	1 5/8"	3 1/2"	11 3/4"
2 9/16"	▲DX-182	1 3/4"	3 11/16"	12 27/32"
2 5/8"	▲DX-184	1 3/4"	3 13/16"	12 29/32"
2 3/4"	▲DX-188	1 7/8"	4 1/16"	14 1/32"
2 13/16"	▲DX-190	1 7/8"	4 1/8"	14 1/16"
2 15/16"	▲DX-194	2"	4 5/16"	14 5/32"
3"	▲DX-196	2"	4 3/8"	14 3/16"
3 1/8"	▲DX-1100	2 1/4"	4 9/16"	17 9/32"
3 3/8"	▲DX-1108	2 1/4"	4 7/8"	17 7/16"
3 1/2"	▲DX-1112	2 3/8"	5 1/16"	17 17/32"
3 3/4"	▲DX-1120	2 5/8"	5 3/8"	17 11/16"
3 7/8"	▲DX-1124	2 5/8"	5 1/2"	17 3/4"
4 1/8"	▲DX-1132	2 7/8"	5 7/8"	17 15/16"
4 1/4"	▲DX-1136	2 7/8"	6"	18"
4 1/2"	▲DX-1144	3 1/8"	6 1/2"	19 7/8"
4 5/8"	▲DX-1148	3 1/8"	6 11/16"	19 31/32"

Ⓑ STRIKING "BOXOCKETS"

Cadmium Finish

DOUBLE HEXAGON		Head	Head	Overall
Wrench Size	Stock No.	Depth A	Diameter B	Length
1 1/16"	▲HX-340	5/8"	1 11/16"	10 1/2"
1 1/4"	▲HX-400	3/4"	1 15/16"	11"
1 5/16"	▲HX-420	13/16"	2"	11"
1 3/8"	▲HX-440	7/8"	2 3/32"	11"
1 7/16"	▲HX-460	7/8"	2 3/16"	11 1/2"
1 1/2"	▲HX-480	15/16"	2 1/4"	11 1/2"
1 5/8"	▲HX-520	1"	2 7/16"	12"
1 11/16"	▲HX-540	1 1/16"	2 1/2"	12"
1 3/4"	▲HX-560	1 1/16"	2 1/2"	12"
1 13/16"	▲HX-580	1 1/8"	2 11/16"	12 1/2"
1 7/8"	▲HX-600	1 1/8"	2 3/4"	12 5/8"
2"	▲HX-640	1 1/4"	2 15/16"	13"
2 3/16"	▲HX-700	1 5/16"	3 3/16"	13 1/2"
2 1/4"	▲HX-720	1 5/16"	3 1/4"	13 1/2"
2 3/8"	▲HX-760	1 3/8"	3 7/16"	14"
2 9/16"	▲HX-820	1 1/2"	3 11/16"	14 1/2"
2 5/8"	▲HX-840	1 1/2"	3 3/4"	14 1/2"
2 3/4"	▲HX-880	1 5/8"	4"	14 7/8"
2 15/16"	▲HX-940	1 11/16"	4 3/16"	16"
3 1/8"	▲HX-1000	1 3/4"	4 7/16"	16 1/2"

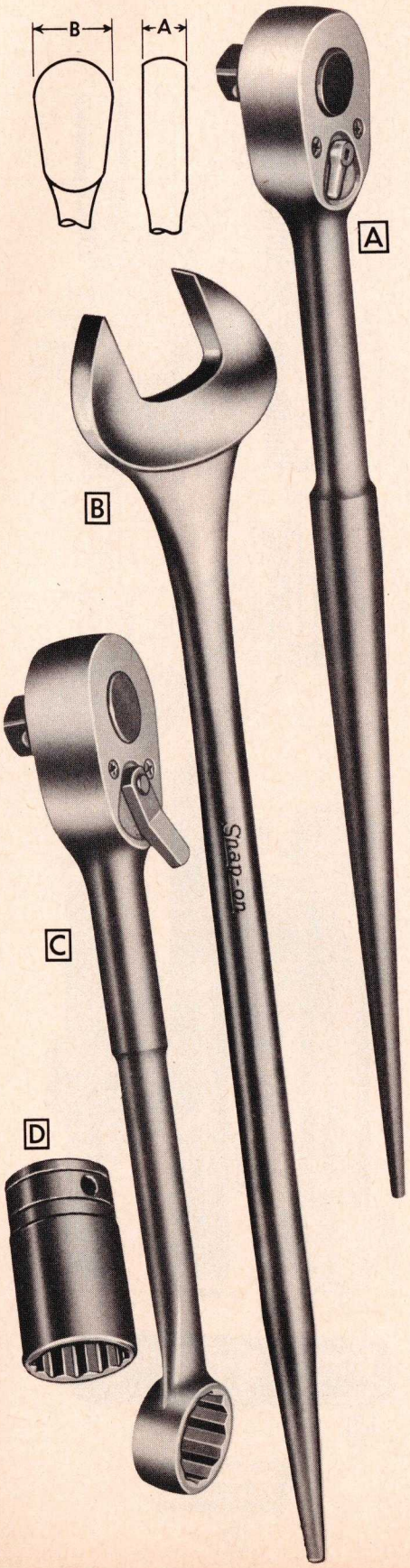


NOTE: For Proper Wrench Size to fit Standard Nut and Bolt Sizes, see page 3P.

▲ Federal Specs: GGG-W-636D applies to the items on this page indicated by symbol ▲.

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

SPUD WRENCHES
SCAFFOLD WRENCHES



Ⓐ RATCHETING SPUD WRENCH

Gear Action — 24 Teeth

½" Square Drive has lock button

Combines the speed of a ratchet wrench with a long lining up spud. Ratchet action allows wrench to be used in best position for working convenience and leverage. May be used with any ½" square drive socket or extension. The tool is especially useful for steel erection, ship yards, building and boiler maintenance, and other work where bolt holes have to be lined up.

Stock No.	Head Depth A	Head Width B	Taper Length	Taper Diameter	Overall Length
N-5895	¾"	1 23/32"	8"	3/16" to ⅞"	14"

Ⓑ OPEN END SPUD WRENCHES

Wrench Size	Stock No.	Head Depth A	Head Diameter B	Handle Diameter	Overall Length
15/16"	SOE-130	½"	1 15/16"	⅝"	14⅛"
1"	SOE-132	9/16"	2 5/16"	11/16"	16¼"
1 1/16"	SOE-134	9/16"	2 5/16"	11/16"	16¼"
1⅛"	SOE-136	9/16"	2 5/16"	11/16"	16¼"
1¼"	SOE-140	⅝"	2 11/16"	11/16"	17¼"
1 7/16"	SOE-146	11/16"	3⅛"	⅞"	20"

Ⓒ SPECIAL RATCHET FOR SCAFFOLDING WORK

This combination of special ratchet and boxocket will contribute working speed and convenience to scaffolding erection and teardown. The ratchet has a ½" square drive fitted with friction ball and is used with deep type sockets for scaffold bolting. The oversize reverse lever permits easy use even when using heavy gloves. "Boxocket" opening is ⅞" double hex and is used for final tightening or to break loose tight nuts and eliminate unnecessary strain on the ratchet or socket.

Gear Action — 24 Teeth

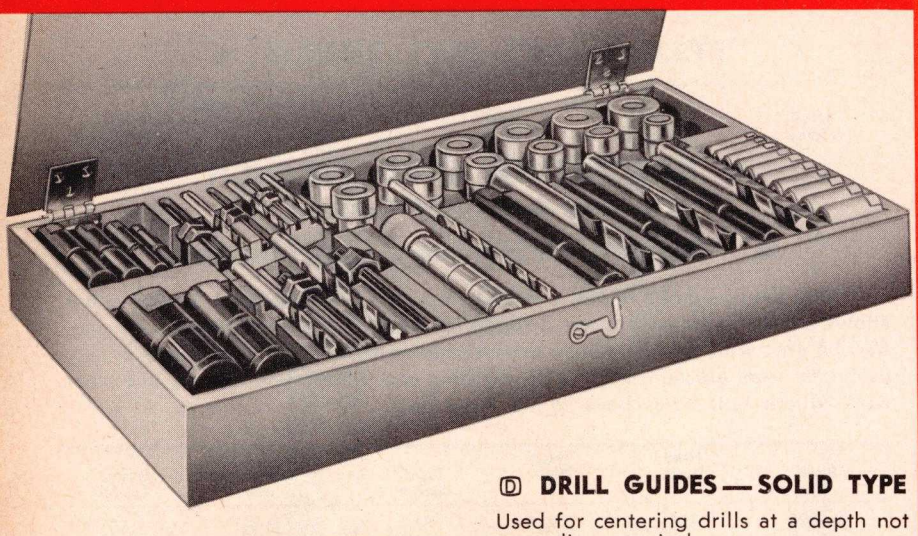
Stock No.	Boxocket Size	Depth		Width		Overall Length
		Box End	Ratchet Head	Box End	Ratchet Head	
B-3408	⅞"	9/16"	¾"	1 3/16"	1 23/32"	9"

Ⓓ SPECIAL SOCKET FOR SCAFFOLDING WORK

DOUBLE HEXAGON		Outside Diameter			
Wrench Size	Stock No.	Socket End	Handle End	Bolt Clearance	Overall Length
⅞"	B-3409	1 3/16"	1⅛"	1¼"	2"

LONGRIP EXTRACTOR SET

REMOVES BROKEN SCREWS, STUDS, PIPE OR PLUGS



▲ E-1025 EXTRACTOR SET

Complete in wood case as shown. Includes all of the parts listed below. Having no taper, these extractors will not expand the broken screw or bolt, and the flutes grip the full length of the drilled role.

THREE STEPS IN EXTRACTING

1. A small hole is first drilled in the broken screw (Fig. 1); if the screw is broken below the surface the correct size guide is used to center the drill (Fig. 4).
2. The hole is enlarged to proper size to accept the extractor tool (Fig. 2 and Fig. 5) . . . correct drill sizes are shown under "Extractors."
3. The drill is removed and the extractor is driven into the drill hole (Figures 3 and 6) and the broken end quickly turned out.

Ⓐ & Ⓑ SCREW EXTRACTORS

Nos. E-1 and E-5 are complete with special hex nut for turning.

Nos. E-6 and E-8 have squared ends for turning.

Stock No.	For Screw Diam.	Use Drill	Overall Length
Ⓐ E-1	1/4"	1/8"	2 5/16"
Ⓐ E-2	5/16"	3/16"	2 3/4"
Ⓐ E-3	3/8"	1/4"	3 1/16"
Ⓐ E-4	7/16"	5/16"	3 5/16"
Ⓐ E-5	1/2"	11/32"	3 3/4"
Ⓑ E-6	5/8"	7/16"	4 1/8"
Ⓑ E-7	3/4"	1/2"	4 1/2"
Ⓑ E-8	1"	5/8"	4 5/8"

Ⓒ PIPE & PLUG EXTRACTORS

Stock No.	For Std. Pipe	Use Drill	Overall Length
E-80	1/8"	17/64"	2 1/4"
E-81	1/4"	23/32"	2 1/2"
E-82	3/8"	1/2"	2 3/4"
E-83	1/2"	5/8"	3"
E-84	3/4"	13/16"	3 1/4"
E-85	1"	1 1/16"	3 1/2"

▲ Federal Specs: GGG-E-936 applies to the E-1025 Extractor Set.

Ⓓ DRILL GUIDES — SOLID TYPE

Used for centering drills at a depth not exceeding one inch.

Stock No.	Outside Diam.	For Drill	Overall Length
E-921	9/32"	1/8"	1 3/16"
E-1021	5/16"	1/8"	1 3/16"
E-1121	11/32"	1/8"	1 3/16"
E-1221	3/8"	1/8"	1 3/16"
E-1321	13/32"	3/16"	1 3/16"
E-1421	7/16"	3/16"	1 3/16"
E-1521	15/32"	3/16"	1 3/16"
E-1621	1/2"	3/16"	1 3/16"
E-1721	17/32"	1/4"	1 3/16"
E-1821	9/16"	1/4"	1 3/16"

DRILL GUIDES — SLEEVE TYPE

For centering the 1/4" diameter 6" long drill. Parts are interchangeable to adapt to different diameter screw or stud holes and depths up to 3 3/4".

Ⓔ **E-34 Sleeve.** 5/8" Outside diameter.

Ⓕ **E-33A Knurled Sleeve Nut.** 3/4" diameter.

Ⓖ **E-33B Sleeve Spacers.** (4 included) 5/8" diameter.

Ⓗ **Sleeve Bushings** (2 of each included).

Stock No.	Diameter	Stock No.	Diameter
E-2133	21/32"	E-3033	15/16"
E-2233	11/16"	E-3133	31/32"
E-2333	23/32"	E-3333	1 1/32"
E-2533	25/32"	E-3433	1 1/16"
E-2633	13/16"	E-3533	1 3/32"
E-2933	29/32"		

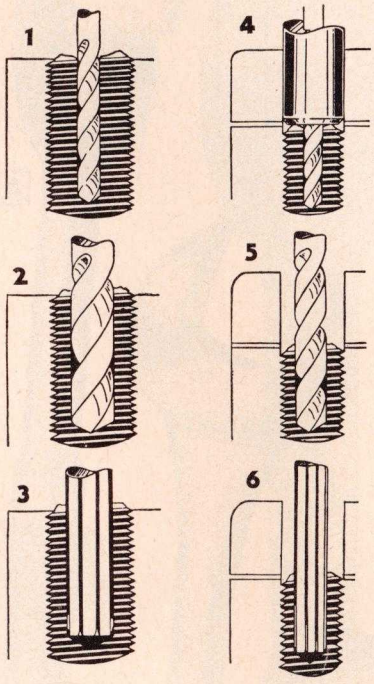
REPLACEMENT DRILLS

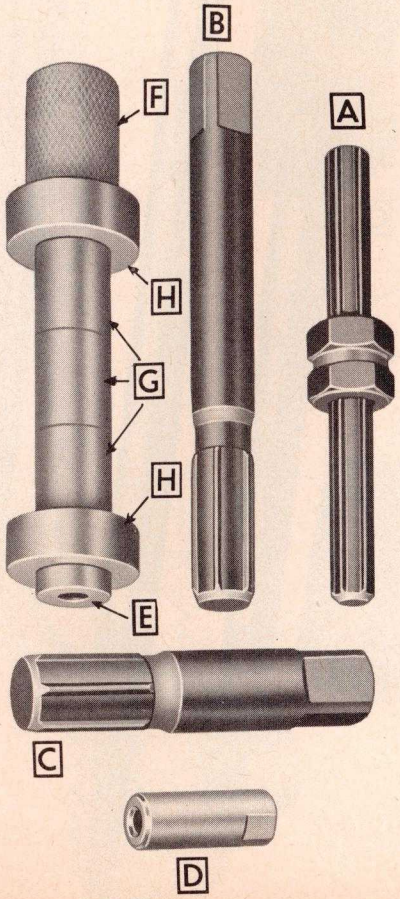
Stock No.	Size	Flute Length	Overall Length
DBE-1/8"	1/8"	1 3/8"	3"
DBE-3/16"	3/16"	2"	3 1/2"
DBE-1/4"	1/4"	2 1/2"	4"
DBE-5/16"	5/16"	2 5/8"	4 1/2"
DBE-11/32"	11/32"	2 3/4"	4 1/2"
DBE-7/16"	7/16"	1 7/8"	4 1/4"
DBE-1/2"	1/2"	2 1/4"	4 3/4"
CSE-405	5/8"	2 1/2"	5 1/4"
*DBL-1/4"	1/4"	3 1/2"	6"

* For use with Sleeve-Type Drill Guides.

Snap-on Tools

FOR PRODUCTION AND MAINTENANCE



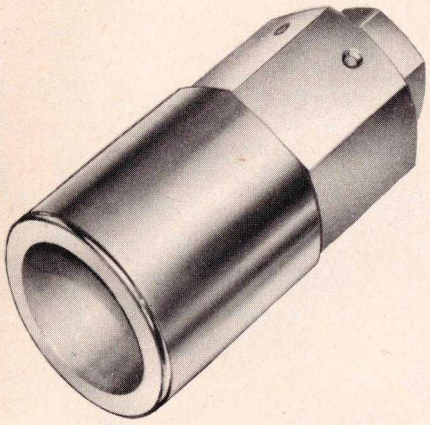


Snap-on Tools
SERVING INDUSTRY EVERYWHERE

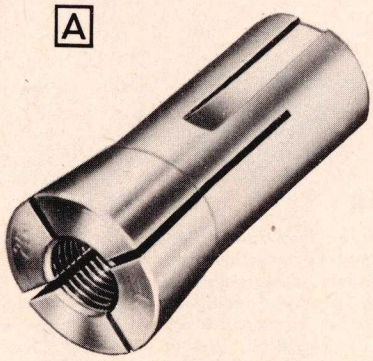
STUD EXTRACTORS

COLLET-TYPE STUD REMOVERS

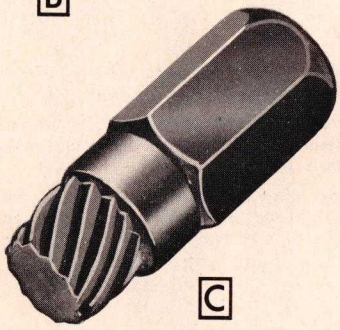
NOTE: Smaller Sizes are Listed on Page 50 of General Catalog "A2"



A



B



C

Ⓐ HOUSINGS

The tapered collets thread onto the stud, even if only two or three threads are exposed. Tightening the bolt at this end draws the collet into the housing and locks the puller tightly onto the stud.

NO DAMAGE TO STUD THREADS. Studs may be reused, expensive parts can often be reclaimed.

QUICK APPLICATION. No need to "double-nut" the stud. These tools may be used with impact wrenches or with standard wrenches.

SIMPLIFY STUD TURNING on heat exchangers, compressor engines, slide valves, etc.

▲ **CG-505-1 Large Housing.** Fits Collets CG-505-2 through CG-505-8.

CG-505 Set. Contains the CG-505-1 Housing and the CG-505-2, CG-505-3 and CG-505-4 collets. Handles studs with 3/4" — 10, 7/8" — 9, and 1" — 8 threads.

▲ **CG-508 Extra Large Housing.** Fits Collets CG-508-1 through CG-508-12.

Ⓑ TAPERED COLLETS FOR ABOVE HOUSINGS

▲ LARGE SIZES		▲ EXTRA LARGE SIZES			
11/16"-16	CG-505-8	1 1/8"-7	CG-508-1	1 3/8"-6	CG-508-5
3/4"-10	CG-505-2	1 1/8"-8	CG-508-9	1 3/8"-8	CG-508-11
3/4"-16	CG-505-5	1 1/8"-12	CG-508-2	1 3/8"-12	CG-508-6
7/8"-9	CG-505-3	1 1/4"-7	CG-508-3	1 1/2"-6	CG-508-7
7/8"-14	CG-505-6	1 1/4"-8	CG-508-10	1 1/2"-8	CG-508-12
1"-8	CG-505-4	1 1/4"-12	CG-508-4	1 1/2"-12	CG-508-8
1"-14	CG-505-7				

Special thread size collets for CG-505-1 and CG-508 housings available on special order.

▲ **CG-510 Heavy Duty Housing.** For stud sizes 1 5/8" through 2".

▲ **CG-511 Heavy Duty Housing.** For stud sizes 2 1/8" through 2 1/2".

▲ **CG-512 Heavy Duty Housing.** For stud sizes 2 5/8" through 3".

NOTE: Collets for the Heavy Duty Housings are made to order. Order by adding stud diameter and thread size to housing part number. Example CG-510-2"–8. Delivery of housings in approximately two weeks after receipt of order; collets in three to four weeks.

Ⓒ BOLT AND STUD EXTRACTOR SET

Handles bolt and stud diameters 1/4" to 7/8".

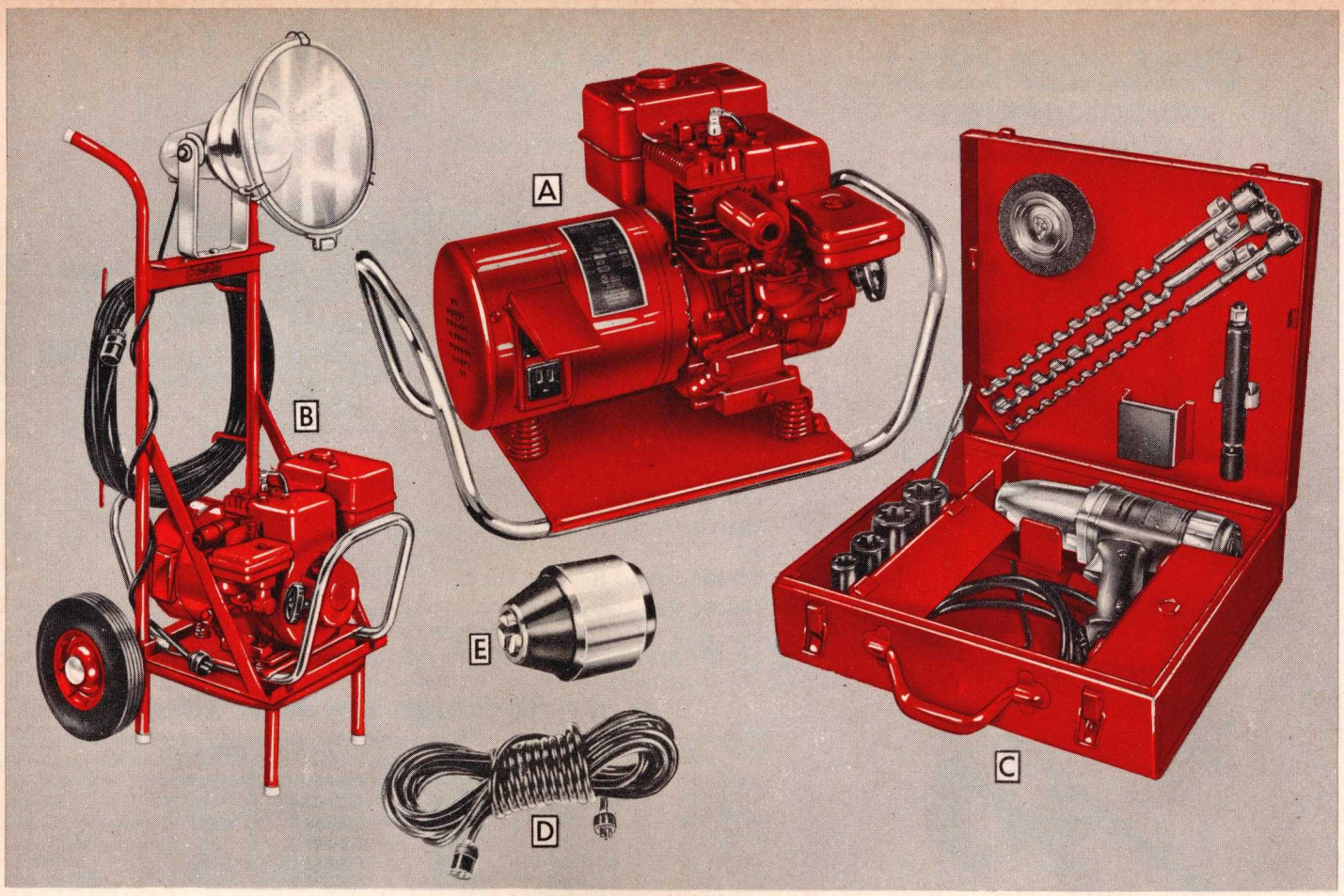
Multi-spline construction combines great strength and a secure grip. To use, drill a hole in the stud . . . turn the proper size extractor into the hole, counterclockwise, and continue turning until stud is removed. Instructions are packed with each set. Extractors are marked with letters for identification.

A shoulder prevents the extractor from entering too deeply and expanding the stud, it also increases the grip on the stud. Studs do not wedge onto the extractors and are easily removed. Each extractor has 1/2" hexagon drive end for wrench turning.

REX-25 Set. Contains one of each size and a wood base holder.

Stock No.	Size	Mark.	Stock No.	Size	Mark.	Stock No.	Size	Mark.
REX-104	1/8"	A	REX-112	3/8"	I	REX-120	5/8"	Q
REX-105	5/32"	B	REX-113	13/32"	J	REX-121	21/32"	R
REX-106	3/16"	C	REX-114	7/16"	K	REX-122	11/16"	S
REX-107	7/32"	D	REX-115	15/32"	L	REX-123	23/32"	T
REX-108	1/4"	E	REX-116	1/2"	M	REX-124	3/4"	U
REX-109	9/32"	F	REX-117	17/32"	N	REX-125	25/32"	V
REX-110	5/16"	G	REX-118	9/16"	O	REX-126	13/16"	W
REX-111	11/32"	H	REX-119	19/32"	P	REX-127	27/32"	X
						REX-128	7/8"	Y

▲ Federal Specs: GGG-S-775A applies to the items on this page indicated by symbol ▲.



Ⓐ PORTABLE ELECTRIC ALTERNATOR

EG-1501 Revolving 2-Pole Alternator. Generates 1,500 watts, 115 volt A.C. 60 cycle current. A small portion of the A.C. output generated in stator coils is rectified and passed through a revolving field to provide a constant, powerful magnetic circuit. All load current is generated in the stationary coils and is connected directly to the load through the power receptacle. Weight, drag and sparking of commutator and brushes is eliminated.

The 3 H.P. 4 cycle 7.75 cubic inch gasoline engine can be used for continuous operation. Fuel consumption is low per watt output. Has mechanical governor, oil foam washable polyurethane element, crankcase breather, recoil starter, cradle type carrying handle and vibration insolation type mountings. Requires minimum maintenance and no lubrication except to maintain proper level of crank case oil. Weighs only about 65 lbs., measures only 22½" handle to handle, 14½" high and 15¼" wide. Easily carried by one man, eliminates need for long extension cords.

Ⓑ MOBILE POWER AND LIGHT UNIT

EL-300A Mobile Power and Light Unit. The complete unit consists of a rugged GA-248A two-wheel cart, EL-14P floodlight, EG-1501 alternator and EC-629 extension. Both light and power can now be wheeled right to the job or work area, for outside location or inside structures or buildings. It eliminates the need of stringing long extension cords, provides illumination and power for electrical tools and devices. This combination is especially useful in case of power failure, as you can roll the outfit right to the trouble source. Railroads, industrial plants, service and maintenance departments will find this an indispensable unit for a variety of uses.

The compact, lightweight and portable alternator weighs only 65 lbs. and can be removed from its mount on the cart if desired.

GA-248A Hand Cart. Sturdy steel construction. Two, 10" diameter, semi-pneumatic wheels lift off floor when unit is set down on its four rubber tipped legs. Maximum width is 20⅞".

EL-14P Floodlight. A wide beam, enclosed, incandescent floodlight on a swivel base. It requires a 500-watt bulb, has 4 feet of 14 gauge, 2-conductor insulated wire and conforms to N.E.M.A. No. 5 specifications.

Bulb and wire plug are not included.

Ⓒ LINEMAN'S DRILLING-BOLTING SET

Provides a new cost-saving concept in line pole work. The impact wrench and accessory units handle both drilling and bolting faster, easier and safer than electric drill or hand tool methods.

Impact action eliminates dangerous torque — lineman can drill or bolt with one hand even in awkward position. The tool cannot be torn from his hand — even if bit hits a wood knot.

No clogging — even on newly creosoted poles. Impact action breaks up wood fibers which feed through the auger flutes. Pole can be drilled right through without stopping. Lag screws are removed with ease.

Special "Loxocket" construction of augers, bits and sockets permit fast, easy interchange even at pole top.

2051-L-B Lineman's Set

Contains following items, in KRD-162 metal case. Units have ½" square drive.

EWL-515 Electric Impact Wrench. Described on page 29 of general catalogue section.

Wood Augers: SBW-1817A 9/16" size, **SBW-2217A** 11/16" size and **SBW-2617A** 13/16" size. (See page 53P.)

Double Square Sockets: SPR-420 ⅝", **SPR-426** 13/16", **SPR-432** 1", and **SPR-436** 1⅛". (See page 53P.)

PBA-4A Wire Brush Adaptor. (See page 53P.)

AC-414 Wire Brush. 4¼" diameter, ¾" face, .014 diameter wire.

KRD-162 Specially Fitted Case. Welded, heavy gauge steel suitcase type carrying handle — two fasteners. Size 15½" x 13½" x 4¾".

2071-L-B Set. Same as above set but with EWL-520 220 volt. Impact wrench instead of EWL-515.

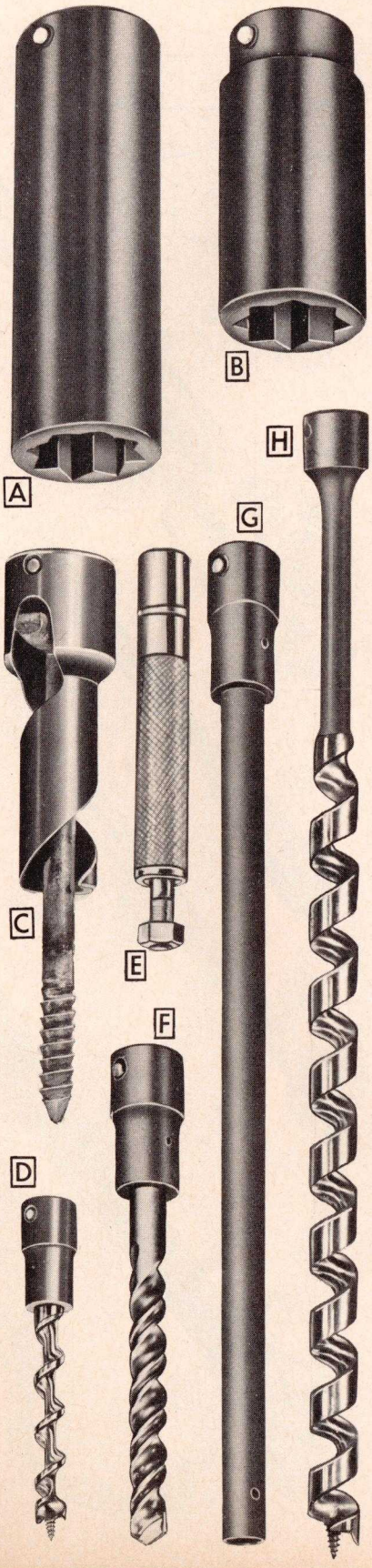
ACCESSORY UNITS FOR ABOVE

Ⓓ **EC-629 Extension Cord.** 50 Foot, 3-conductor cord. Flexible vinyl covering, resists grease, oil, acid or abrasion.

Ⓔ **EW-156 Drill Chuck.** 3-Jaw, self centering, keyless chuck. Adapts above wrenches to round shank drill bits ⅛" to ½".

Snap-on Tools
SERVING INDUSTRY EVERYWHERE

IMPACT ACCESSORIES
1/2 Square Drive
FOR DRILLING OR BOLTING



DOUBLE SQUARE SOCKETS

"Loxocket" Release permits quick interchange of units on the impact wrench.

Ⓐ EXTRA DEEP SERIES

Wrench Size	Stock Number	Clears Bolt	Overall Length	Wrench Size	Stock Number	Clears Bolt	Overall Length
13/16"	SPRL-426	47/32"	5"	1 1/16"	SPRL-434	47/32"	5"
1"	SPRL-432	47/32"	5"	1 1/8"	SPRL-436	47/32"	5"

Ⓑ DEEP SERIES

Wrench Size	Stock Number	Clears Bolt	Overall Length	Wrench Size	Stock Number	Clears Bolt	Overall Length
1/2"	SPR-416	2 1/2"	3 1/4"	7/8"	SPR-428	2 23/32"	3 1/2"
9/16"	SPR-418	2 1/2"	3 1/4"	1"	SPR-432	2 23/32"	3 1/2"
5/8"	SPR-420	2 1/2"	3 1/4"	1 1/16"	SPR-434	2 23/32"	3 1/2"
3/4"	SPR-424	2 1/2"	3 1/4"	1 1/8"	SPR-436	2 23/32"	3 1/2"
13/16"	SPR-426	2 1/2"	3 1/4"	1 1/4"	SPR-440	2 23/32"	3 1/2"

Our standard Industrial 1/2" drive impact sockets and attachments are shown on pages 18P through 24P.

POLE STEP SOCKET AND AUGER BIT

A safer, quicker method of installing or removing pole steps that eliminates hazardous hammer driving practices. Use the auger bit with our electric impact wrench to bore a hole, then replace the bit with the specially shaped pole step socket and drive the step in with the impact wrench. Reverse action to remove the step.

Ⓒ **SPS-1 Special Pole Step Socket.**

Ⓓ **SBW-1806 Pole Step Auger** 9/16" diameter, 6" long.

Ⓔ WIRE BRUSH ADAPTOR

PBA-4A Wire Brush Adaptor. For use with Impact Wrench. Center spindle revolves in bushings at each end of knurled hand grip. Length 5".

Ⓕ CARBIDE TIPPED MASONRY BIT AND EXTENSION

These masonry bits are made specifically for use on our impact wrenches and they perform well in drilling operations in cement block, common brick, concrete, mortar, cement and similar materials. The double spiral design removes powdered material while drilling. An adaptor (furnished with each complete tool) features the "Loxocket" construction which permits fast interchange of drills, sockets etc. on the wrench. Bits are threaded into the adaptors.

Size	Complete Tool No.	Bit Length	Overall Length	Replacement Bit
1/2"	SBM-16	6"	7"	SBM-16-2
5/8"	SBM-20	6"	7"	SBM-20-2
3/4"	SBM-24	6"	7"	SBM-24-2
7/8"	SBM-28	6"	7"	SBM-28-2

Ⓖ **SBMX-12 Extension.** 14" long. For use only with SBM-20 and SBM-24 for drilling completely through cement block walls etc. Complete with SBM-12-1A Adaptor.

SBM-12-1A Replacement Adaptor. Fits above bits and extension (except SBM-8).

Ⓗ WOOD AUGERS

Gives you the benefit of impact drilling without the need for a chuck. The "Loxocket" feature permits fast interchange of units on a 1/2" drive impact wrench.

Size	Stock Number	Flute Length	Overall Length	Size	Stock Number	Flute Length	Overall Length
9/16"	SBW-1817A	12"	17"	13/16"	SBW-2622A	18"	22"
11/16"	SBW-2217A	12"	17"	15/16"	SBW-3017A	12"	17"
11/16"	SBW-2222A	18"	22"	1 1/16"	SBW-3417A	12"	17"
13/16"	SBW-2617A	12"	17"	1 1/16"	SBW-3422A	18"	22"

INDUSTRIAL WRENCHES

Snap-on® Tools
FOR PRODUCTION AND MAINTENANCE

RATCHETING BOX WRENCHES

Ⓐ SINGLE HEX—DETACHABLE HANDLE TYPE

Available on special order only

COMPLETE TOOL			HEAD ONLY			HANDLE ONLY	
Wrench Size	Stock Number	Overall Length	Stock Number	Head Depth A	Head Width B	Stock Number	Handle Diameter
13/16"	L-7226A	24"	L-7226-BY	13/16"	29/16"	L-72H	13/16"
7/8"	L-7228A	24"	L-7228-BY	13/16"	29/16"	L-72H	13/16"
15/16"	L-7230A	24"	L-7230-BY	13/16"	29/16"	L-72H	13/16"
1"	L-7232A	24"	L-7232-BY	13/16"	29/16"	L-72H	13/16"
1 1/16"	L-7234A	24"	L-7234-BY	13/16"	29/16"	L-72H	13/16"
1 1/8"	L-7236A	24"	L-7236-BY	13/16"	29/16"	L-72H	13/16"

Ⓑ SINGLE HEX—OPEN FACE TYPE

Wrench Size	Stock Number	Head Depth A	Head Width B	Overall Length
7/16"	R-714	13/32"	15/16"	6 1/2"
1/2"	R-716	13/32"	15/16"	6 1/2"
1/2"	R-716B	21/32"	15/16"	6 1/2"
5/8"	R-720	15/32"	1 3/16"	8"

Ⓒ RATCHETING OPEN END WRENCH

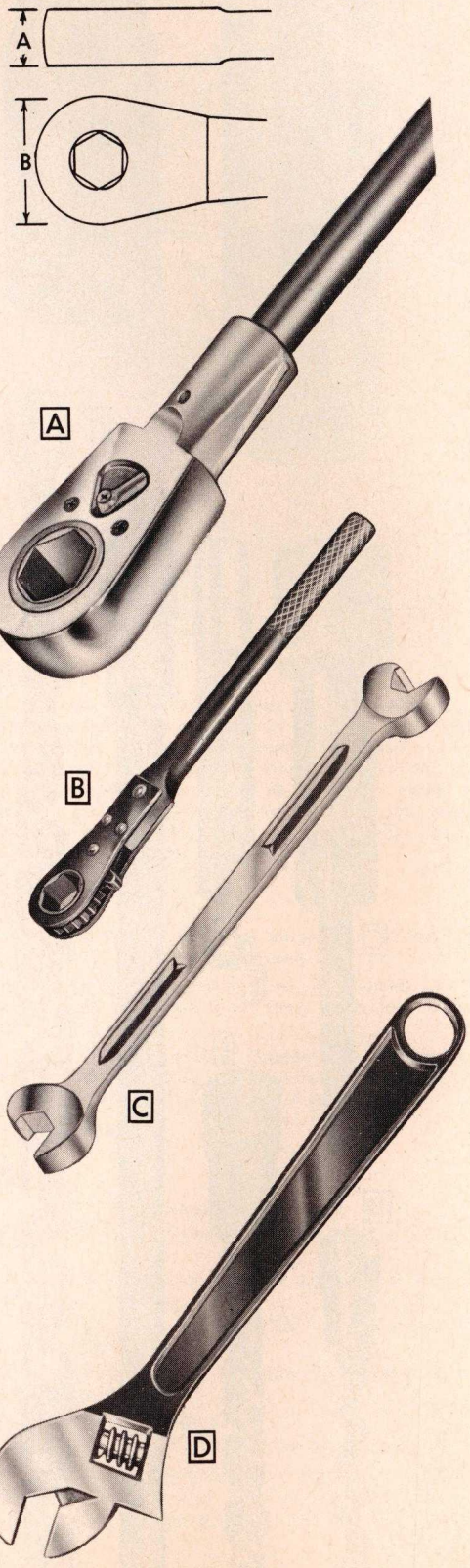
Heads are set at a 15 degree angle from the handle and the wrench openings are also at a 15 degree angle. The wrench permits running a nut all the way down without removing the wrench . . . speeds assembly time. Black finish.

Wrench Size	Stock No.	Head Thickness	Overall Length
3/8" & 7/16"	GRVS-1214	3/8"	6"

Ⓓ ADJUSTABLE WRENCHES—BLACK FINISH

Made from the same high quality alloy steel as our chrome plated units listed on page 69 of our general catalog section. They have extra strong yet thin jaws in order to reach into close places.

Stock Number	Size	Capacity	Head Thickness
DA-24	4"	1/2"	5/16"
DA-26	6"	3/4"	13/32"
DA-28	8"	15/16"	15/32"
DA-210	10"	1 1/8"	9/16"
DA-212	12"	1 5/16"	3/4"
DA-215	15"	1 11/16"	31/32"

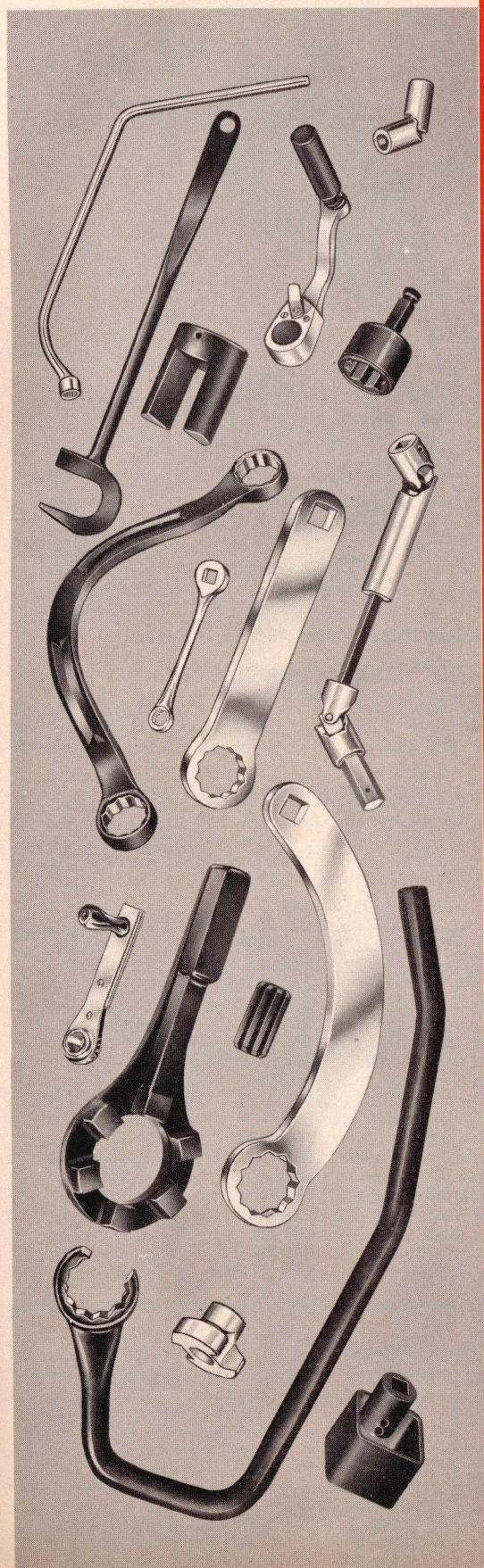


Snap-on Tools

SERVING INDUSTRY EVERYWHERE

SPECIAL WRENCHES

Built to Solve SPECIAL PROBLEMS





WHEN STANDARD WRENCHES WON'T WORK

Having trouble with poor fitting, unsafe, makeshift tools? This may be your answer — Special tools, made for your unique requirements.

When the flow of products from automatic machines must pass through hand assembly, production miracles cease and speed rests upon the individual skill of assembly line mechanics . . . and the *fitness* for the job of every tool they use.

A SNAP-ON tool expert can help eliminate "bottlenecks" in assembly operations through the careful survey of hand tool needs for your entire plant or for a single operation. He can recommend standard tools or refer idea sketches to SNAP-ON design engineers for special tools to be produced for unusual applications where standard wrenches won't work efficiently. "Specials" help speed the work and cut production costs.

Tools shown at the left are a sampling of "Specials", made by SNAP-ON to solve various problems and have saved thousands of man-hours and down-time for our customers. A basic line of hand tools has also been developed specifically for Aero-Space and Missile industry requirements. This line is growing rapidly, in pace with the industry.

For many years, Production and Service Engineers of leading manufacturers throughout industry have relied on SNAP-ON for their special tool requirements. Whether your tool problems are big or small, tightening or loosening, torquing or pulling, SNAP-ON is equipped and eager to provide a solution.

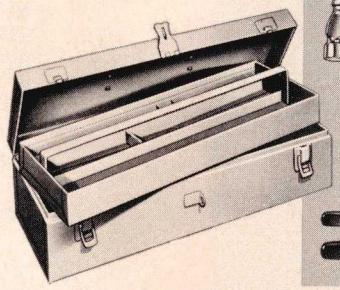


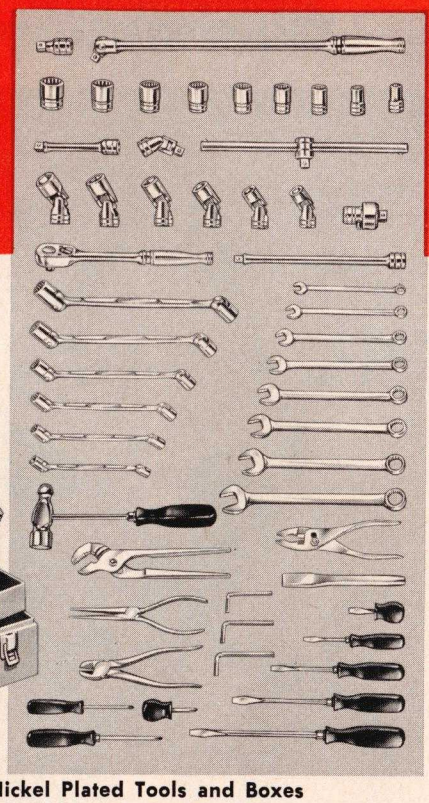
"Snap-on, you're the first hand-tool company to take an interest in our clean room tool problems."

This is what a major builder of electronic equipment told us recently! And we **are** interested. Further, we've been through it. We have trained clean room tool specialists who can help you.

SNAP-ON clean room tools meet MIL-C-26074-A Specification for electroless nickel coating on a wide range of open end, box, combination, and socket wrenches, screw drivers, pliers, and many others. Electroless Nickel Plating is non-porous, free of voids, has uniform density and thickness, and will not attract or impound environmental contaminants. Screw drivers and similar tools are furnished with Delrin handles. Let us quote on your specific Clean Room tool requirements.

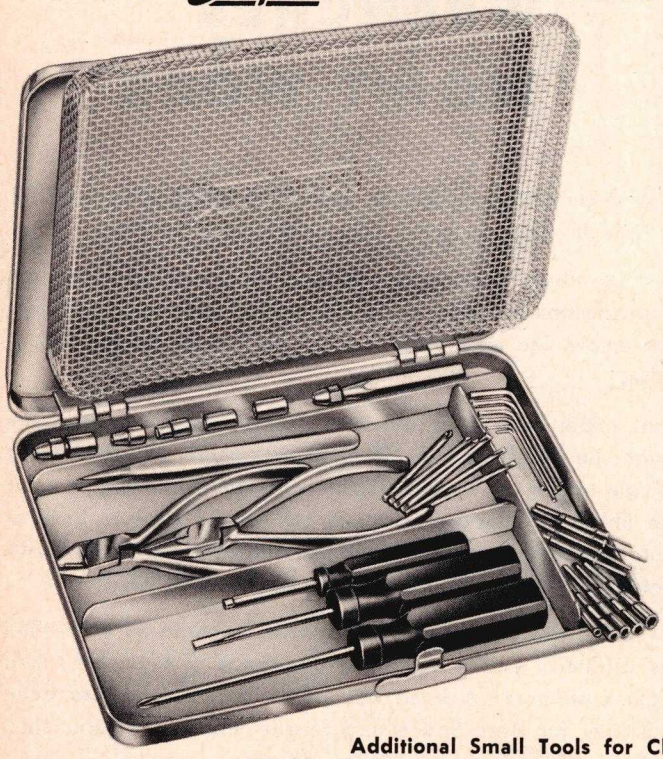
TOOLS DESIGNED FOR RIGID CLASS 100 - 10,000 - 100,000 CLEAN ROOM REQUIREMENTS





We can supply Electroless Nickel Plated Tools and Boxes

Snap-on TAILORS CLEAN ROOM TOOL SETS TO MEET YOUR REQUIREMENTS



Lanyard grooves or holes and special lock buttons can be furnished to prevent tools dropping into assemblies. Electroless Nickel Plated tool panels, boxes, and chests provide quick selection of needed tools or tool storage.

CRIS-1B-EN INSTRUMENTATION TOOL SET

Designed specifically for Electronic and Instrumentation assembly and repair operations, this set is available with Electroless Nickel Plating and Delrin handles (where necessary) for Clean Room use, and with regular protective finishes for less exacting requirements.

CRIS-1B-EN Set Contents

Stock No.	Description	Stock No.	Description
184-DD-EN	Diag. Cutter	QA-020-9-EN	Hex Socket 5/32"
423-3	S. St'l. Tweezers	QA-020-10-EN	Phillips #0 Blade
AW-028-EN	Hex Wrench .028"	QA-020-11-EN	Phillips #1 Blade
AW-035-EN	Hex Wrench .035"	QA-020-12-EN	Hex Key .028"
AW-1½-EN	Hex Wrench 3/64"	QA-020-13-EN	Hex Key .035"
AW-2-EN	Hex Wrench 1/16"	QA-020-14-EN	Hex Key .050"
AW-2½-EN	Hex Wrench 5/64"	QA-020-15-EN	Hex Key 1/16"
AW-3-EN	Hex Wrench 3/32"	QAT-1-EN	Adaptor to 1/8" Dr.
E-708-EN	Long Nose Pliers	QAZ-1-EN	Driver for QA Bits
QA-020-1-EN	Screw Driver Blade	SDE-42-EN	Thin Bl. S. Driver
QA-020-2-EN	Screw Driver Blade	SDEP-30-EN	Phillips S. Driver
QA-020-3-EN	Screw Driver Blade	T-6-EN	Hex Socket 3/32"
QA-020-4-EN	Screw Driver Blade	T-8-EN	Hex Socket 1/8"
QA-020-5-EN	Hex Socket 5/64"	T-10-EN	Hex Socket 5/32"
QA-020-6-EN	Hex Socket 3/32"	T-12-EN	Hex Socket 3/16"
QA-020-7-EN	Hex Socket 7/64"	T-40-EN	Grip Handle
QA-020-8-EN	Hex Socket 1/8"	KRA-275-ENS	Case & Screen

For less rigid requirements, regular protective finish tools can be ordered by omitting the "EN" suffix.

Additional Small Tools for Clean Room Instrumentation Assembly

Stock No.	Description	Stock No.	Description	Stock No.	Description
020-EN	Offset Screw Driver	DS-1010-EN	5/32" Open End Wrench	PPC-403-EN	1/8" Pin Punch
030-EN	Offset Screw Driver	DS-1212-EN	3/16" Open End Wrench	PPC-404-EN	Center Punch
040-EN	Offset Screw Driver	FZ-4A	Fuse Tongs	PPC-405-EN	1/16" Starter Punch
5-EN	Pliers	GA-145-EN	Inspection Mirror	PPC-406-EN	3/16" Cape Chisel
50C-EN	Pliers	MS-2-EN	.033" Multi-Spline Wrench	PPC-407-EN	Round Nose Cape Chisel
BP-2-SS	2 Oz. Hammer	MS-3-EN	.048" Multi-Spline Wrench	PPC-408-EN	5/16" Flat Chisel
D-74-EN	Adjustable Wrench	MS-4-EN	.060" Multi-Spline Wrench	QA-020-Z	Torque Wrench 0-20 inch-oz.
DN-54-EN	Duck Bill Pliers	MS-5-EN	.069" Multi-Spline Wrench	XI-78-EN	7/64" & 1/8" "Boxocket"
DS-88-EN	1/8" Open End Wrench	PPC-402-EN	1/16" Pin Punch	XI-1012-EN	5/32" & 3/16" "Boxocket"



Snap-on® FLANK DRIVE WRENCHES

U.S. PATENT NUMBER 3,273,430

BEST since Snap-on® WRENCH IDEA pioneered the interchangeable socket

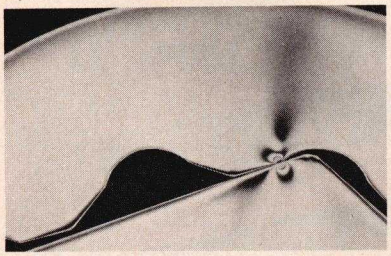
The new SNAP-ON *Flank Drive* single and double hex wrench broaching is the greatest idea in wrenches since the versatile detachable socket.

Now, there's savings in time on repair jobs; adequate protection for fastener heads; appreciable extension of tool serviceability.

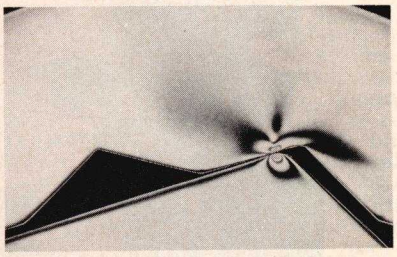
This new development results in wrenches that are 5 to 10% stronger than comparable ordinary wrenches . . . provide a 15 to 20% increase in application pressure without damage to fasteners. The wrench contacts the nut at the side or flank rather than at the corner, thereby assuring a firm, slip-resisting grip. This revolutionary new design actually prolongs the life of the socket . . . prevents rounding of corners of nuts and bolts.

The SNAP-ON *Flank Drive* Wrench proves best on a wide variety of applications — in service stations, repair garages, automotive assembly plants, refrigeration equipment construction, jet aircraft engine and aerospace equipment manufacture, general industrial operations. Special high performance sockets are available for use on high tension 12-point fasteners . . . see SNAP-ON industrial catalogue for listings.

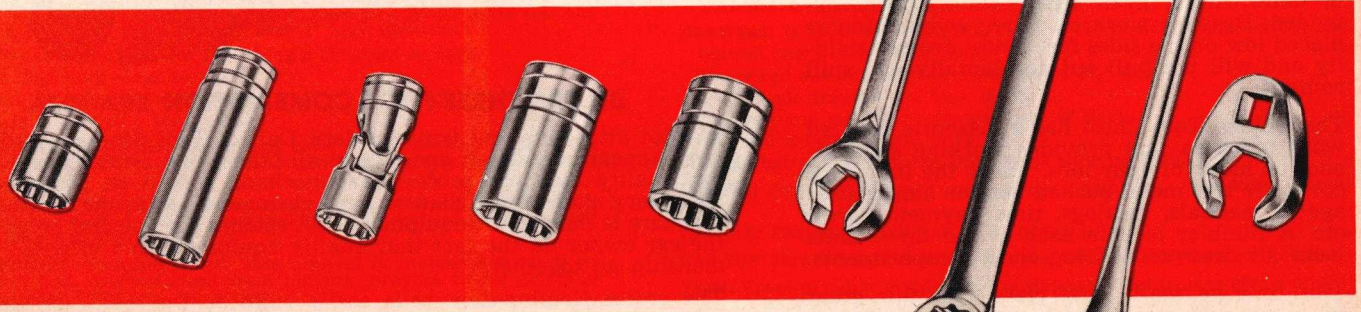
The *Flank Drive* design is now incorporated into SNAP-ON single and double hexagon sockets, box-ockets, combination, flare nut and many special use wrenches 1 5/16" and smaller. These tools are excellent for those jobs requiring unusually high torque or tightening, as well as for the regular day-in, day-out nut turning jobs.



SNAP-ON *Flank Drive* Socket contacts nut or bolt away from the corner for better turning, wider stress distribution.

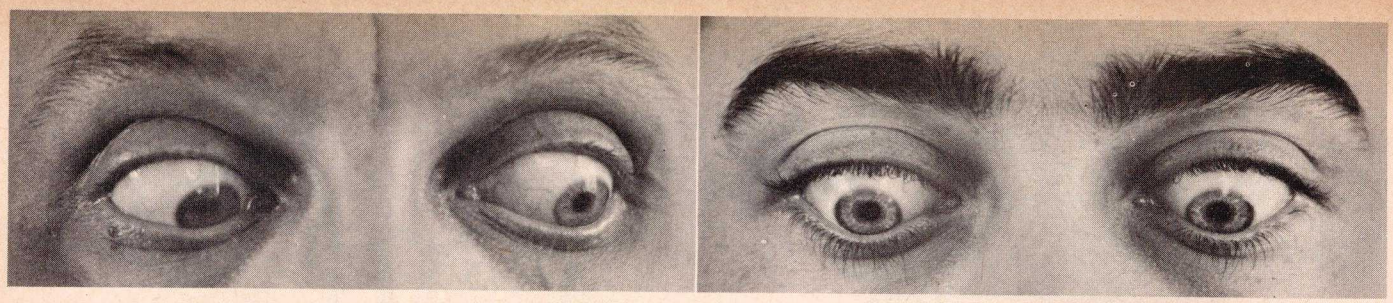


Ordinary Hex Socket contacts corner of nut or bolt resulting in greater stress on fastener and socket.





See pages on sockets and other wrenches for complete ranges of *Flank Drive* types and sizes.



WATCH THEIR EYES POP

when you unwrap this NEW Snap-on® BEAUTY



You'll be the envy of every mechanic you know when the SNAP-ON man wheels in this two-tone deluxe combination. It's truly a feast for the eyes with its handsome black and red finish set off with wood grain finish on the lock panels and sparkling stainless steel trim.

And man, what room! Nine drawers in the tool chest, 6 in the center drawer section, 11 in the roll cab, 26 in all plus an open compartment on top to give you a place for every tool you own. The variety of drawer sizes accommodate virtually any size and shape tools and keep them right where you want them for greatest working convenience. This KRA-503A Combination consists of three deluxe units, a massive KRA-500A Roll-Cab, KRA-520A Drawer Section, and KRA-510A Tool Chest as shown here and described in detail on the opposite page. Overall, the unit is 52" high, 41¼" wide and 19" front to back.

Strength? This combo's got it. Each unit is sturdily constructed of heavy gauge steel, reinforced and closely spot welded for maximum strength and durability. Tested under extra heavy loads of tools and weights, each drawer slid in and out smoothly and easily with no sign of deformation, even with drawers fully extended. Drawers work on strong metal runners placed low on the sides for utmost drawer rigidity and will not pull out accidentally and spill contents.

The Deluxe Tool Chest has a masonite covered work top area that provides working convenience on many of your jobs. Inside the tool chest cover are two metal pockets for the handy storage of manuals, catalogs, time payment cards, etc. A tumbler lock in each of the three units locks all drawers and top chest compartments.

This time go really first class! Get this great set — one unit at a time or complete — on easy, easy payments. Get all the facts from your SNAP-ON dealer.

DELUXE THREE-PIECE COMBINATION KRA-503A

A most attractive and truly modern Deluxe Tool Storage outfit. The very appearance sets it apart from all others and establishes it as the top quality that any professional mechanic would be proud to own and every shop owner glad to have customers see in the service area. For here is the type of equipment that catches the eye and helps to sell the car owner on the fact that quality equipment and efficient workmanship go together.

The entire Combination rolls easily right to the work on large, 5" diameter wheels. Its narrow width of 19" permits transport through narrow doorways and between equipment to deliver the tools to virtually any work area.

Snap-on DELUXE TOOL CHEST, DRAWER SECTION AND ROLL-CAB COMBINATION

A NEW CONCEPT OF MODERN DESIGN AND CONVENIENCE





FEATURES: CAPACITY — PROTECTION — CONVENIENCE — APPEARANCE — MOBILITY — DURABILITY

Ⓐ Snap-on DELUXE TOOL CHEST KRA-510A

DIMENSIONS: 38¾" long, 19" front to back, 14⅛" high including the base runners.
TOP: Masonite covered work area 13⅛" x 18".

OPEN COMPARTMENT, 24¾" x 17" x 3".
There is a 2" high divider lengthwise. Front of compartment has a wood grain type finish. Tumbler lock secures the cover and all the drawers.

DRAWERS: (4 Red) All are 23¼" long x 17" front to back. Two are 1⅜16" deep, two are 2⅜16" deep, one of each is divided lengthways and one of each is divided front to back with 1" high dividers.

DRAWERS: (5 Black) All are 11⅞" long x 17" front to back.
One is 2¾" high — no dividers.
Two are 1⅜16" high — no dividers.
Two are 2⅜16" high — no dividers.

DRAWER SLIDE RUNNERS: Located as close to the bottom edge of the drawer as possible to provide maximum rigidity and ease of operation.

COVER: Has full length continuous hinge. Reinforced with a full length welded-on channel and by two welded-on literature pockets, each 11⅛" long x 8" x ½".

BASE RUNNERS: Two full length base runners fit matching grooves on the Roll Cab, prevent chest from moving, provide finger gripping space under the chest for lifting.

TRIM: Stainless steel around front outline.

WEIGHT: Net weight 120 lbs. Shipping weight 132 lbs.

Ⓓ CHEST AND ROLL-CAB COMBINATION KRA-502A

Give yourself the red carpet treatment and get this great two-piece combination. Check the specifications of the Chest and Roll-Cab given below.

HEIGHT: Floor to top of chest is 45⅝".

WEIGHT: Net 327 lbs. Shipping 361 lbs.

Ⓑ Snap-on DELUXE DRAWER SECTION KRA-520A

OVERALL DIMENSIONS: 38¾" long, 19" front to back, 7" high including the base runners.

DRAWERS: (3 Red) All are 23¼" long x 17" front to back x 1⅛" deep. Top drawer has wood grain type finish.
Tumbler lock secures all drawers. Two drawers are divided with 1" high dividers.

DRAWERS: (3 Black) All are 11⅞" long x 17" front to back x 1⅛" deep.

DRAWER SLIDE RUNNERS: Located as close to the bottom edge of the drawer as possible to provide maximum rigidity and ease of operation.

BASE RUNNERS: Two full length base runners fit matching grooves on the Roll Cab, prevent drawer section from moving, provide finger gripping space under the chest for lifting.

WEIGHT: Net weight 84 lbs. Shipping weight 97 lbs.

Ⓒ Snap-on DELUXE ROLL-CAB KRA-500A

DIMENSIONS: 38⅞" long, including handle 41¼" long, 19" front to back, 32" total height from floor, cab only 26⅜".

DRAWERS: (5 Red) All, except the bottom one which is 20¾" long, are 23¼" long x 17" front to back. Top Red drawer has small section 2" x 13¼" x 1¼" deep. Front of top drawer has wood grain type finish. Tumbler lock secures all drawers.

DRAWERS: (6 Black) All are 11⅞" long x 17" front to back, except the bottom one which is 9⅜" long.
Three red and three black drawers are 2¾" deep.
Two black drawers are 2⅜16" deep.
One red and one black drawers are 8" deep.
One red drawer is 4¾" deep.
Large bottom drawer has extra large slide runners.

WHEELS: Are 5" diameter, metal centers with flat, solid hard rubber tires.

HANDLE: Chrome plated bar 18¼" long x ¾" dia.

CAB TOP: Has recessed channels to accept the base runners of the chest.

TRIM: Front of cab is divided by the stainless steel trim to give a pleasing appearance of matching rectangles. In combination with the Deluxe Chest it creates a balanced triple stack effect.

WEIGHT: Net weight 207 lbs. Shipping weight 229 lbs.







ABOVE: "ROLLA-BENCH" WITH OPTIONAL SET OF THREE BOTTOM DRAWERS IN PLACE.

RIGHT: ALUMINUM ROLL FRONT LOCKS ENTIRE CONTENTS.

Snap-on® ROLLA-BENCH

TAKES TOOLS AND BENCH RIGHT TO THE JOB

A PORTABLE WORK BENCH AND ROOMY TOOL AND EQUIPMENT CABINET IN ONE UNIT

Here you have ample facilities for the orderly arrangement of your wrenches, hand tools and storage space for electrical drills, etc.

Cab top and bottom are made of rugged 14 gauge steel. Top is reinforced to provide a sturdy base for grinders and other equipment and has a heavy masonite work surface. Entire unit is heavy gauge steel, electrically welded for great strength and long service and, with exception of roll front, is finished in baked-on enamel. Roll front is of interlocking aluminum panels in satin finish. It glides up, over and behind the drawers, a feature especially useful where limited space makes hinged doors inconvenient. A tumbler-type lock is supplied.

All drawers have easy gliding slide runners. A fixed stop prevents drawers from pulling out completely. Large drawers have extra wide runners and all runners are set low to gain maximum rigidity and sag-proof support. A welded-in dividing strip lengthwise in the long drawers adds rigidity and helps segregate contents. Drawer pulls are full length with stainless steel trim strips.

The push-bar handle is chromium plated and can be used as extension cord holder. The light fixture and junction box are extra accessories and not included with the roll-cab.

MODELS AVAILABLE

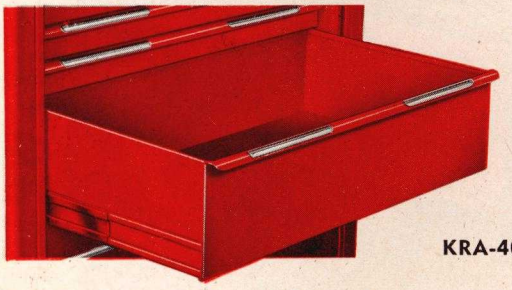
Ⓐ **KRA-300B Rolla-Bench with 8 drawers, Red Enamel Finish.**

KGA-300B Rolla-Bench with 8 drawers, Grey Enamel Finish.

Note: Light, wiring and junction box are not included but are available as accessory units.

SPECIFICATIONS

Overall Dimensions: 33″ x 19″ x 37⅛″ top to floor.
3 Drawers: 8¼″ x 15½″ x 1 1/16″ deep.
3 Drawers: 26¾″ x 15½″ x 1⅞″ deep.
2 Drawers: 26¾″ x 15½″ x 3 3/16″ deep.
The five long drawers have a lengthwise divider.
Open Compartment: 27¾″ x 18″ x 12½″ deep.
Casters: 2 Fixed, 2 swivel, with wheel brakes. 5″ diameter hard composition wheels.
Weight: Net 188 lbs.; Shipping: 220 lbs.



KRA-404







Ⓑ ACCESSORY UNITS

KRA-431A Set of Three Drawers — red finish.
KGA-431A Set of Three Drawers — grey finish.
Above drawers are available for users who need additional drawer space. They fit perfectly into factory installed slides in the lower compartment as shown above. Each drawer is 26¾″ x 15½″ x 3 3/16″ deep. Weight of the set is 25½ lbs.

KRA-404 Deep Accessory Drawer — Red Enamel Finish.
KGA-404 Deep Accessory Drawer — Grey Enamel Finish.
Deep Accessory Drawers above are designed to hold electrical meters or other large items. Dimensions are: 27½″ wide, 15 5/16″ front-to-back and 6⅝″ deep. A 1″ stiffener located in the center of the drawer, across the full width, gives added strength to the drawer. The KRA-404 can be placed under the bottom two drawers of the roll cab or it can replace the bottom drawers. There are any number of possible combinations, three of which are illustrated.

KRA-303 Junction Box — red enamel finish.
KGA-303 Junction Box — grey enamel finish.
This unit fits into a factory prepared opening and retaining bracket in the cab. It has a 3-conductor inlet and two 3-conductor outlets. Ten feet of No. 16 3-conductor cord and fittings are included.

KRA-304 Light Fixture. Attaches to back of cab. Flexible top provides convenient usage. 2-conductor cord may be plugged into wall outlet or junction box. Available in red finish only.



Snap-on WELDED STEEL COASTER-CAB
WITH LOWER DRAWER SECTION AS OPTIONAL EQUIPMENT

ROLLS RIGHT TO THE JOB—NO LOST TIME—NO HUNTING FOR TOOLS

Ⓐ **KRA-377A Coaster Cab.** Modernize your maintenance shop and speed repair work with roller cab convenience. Here is storage room for all your tools from Midget tools to large drills, gear pullers, and other equipment . . . built into a rolling work bench. It is built of heavy gauge steel and electrically welded for greatest strength.

A "drop-in" front panel encloses the lower compartment and slides into a rack under the lower drawer. One tumbler-type lock secures the entire contents. The heavy gauge, flat metal top provides plenty of working space. 4" diameter casters (2 swivel, 2 fixed) roll your "Coaster-Cab" easily and quietly to the job. The red enamel finish is oven baked to provide long lasting attractive appearance.

KGA-377A Coaster Cab. Grey enamel finish.

Ⓒ **KRA-378 Coaster Cab.** Same as above unit but with two large bottom drawers added. Red finish.

Five Sturdy, Roomy Drawers

Plenty of space for wrenches and hand tools — even long sliding bars, extensions, etc. Each drawer has "Non-spill" slide runs, and the two bottom drawers have extra wide, heavy duty runners placed low on the drawer sides. Even when heavily loaded these drawers will slide easily and without sagging, binding, tipping, or pulling out completely and spilling.

Specifications

Overall Dimensions: 26⅝" long, 19⅛" wide, 37" high.

Three Top Drawers: 21½" long, 18½" wide, 1¾" high.

Two Bottom Drawers: 21½" long, 18½" wide, 3⅞" high.

Compartment: 22½" long, 19" wide, 12½" high.

Weight: Net 145 lbs., Shipping 154 lbs.

OPTIONAL DRAWER SETS

If you desire the convenience of additional drawer space you can easily convert the open compartment with the addition of these optional sets of drawers. No drilling — no bolting — simply slip the drawer runners into the channels factory-welded into the sidewalls of the cabinet. Note: These sets of drawers will only fit the KRA-377A model Coaster-Cab shown above. Each drawer has full length pull and "non-spill" runners, the four largest drawers have extra wide heavy duty runners to handle heavy loads easily.

Three-Drawer Set

Ⓑ **KRA-433 Three-drawer Set.** (Shown in KRA-377A Coaster-Cab.) Red enamel finish.

KGA-433 Three-drawer Set. Grey enamel finish.
Top Drawer: 21½" long x 17" x 1⅞".
Two Lower Drawers: 21½" x 17" x 3⅞".
Weight: Net 55 lbs., Shipping 59 lbs.

Two-Drawer Set

KRA-432 Two-drawer Set. In red enamel finish.
Top Drawer: 21½" long x 17" wide x 2⅞".
Bottom Drawer: 21½" long x 17" wide x 6⅞".
Weight: Net 21 lbs., Shipping 25 lbs.



Snap-on

Our Heaviest Gauge Steel Chest . . . Built For Hard Service In The Plant Or Out In The Field

HEAVY DUTY TOOL CHEST
WITH REINFORCED STEEL RUNNER SKID BOTTOM

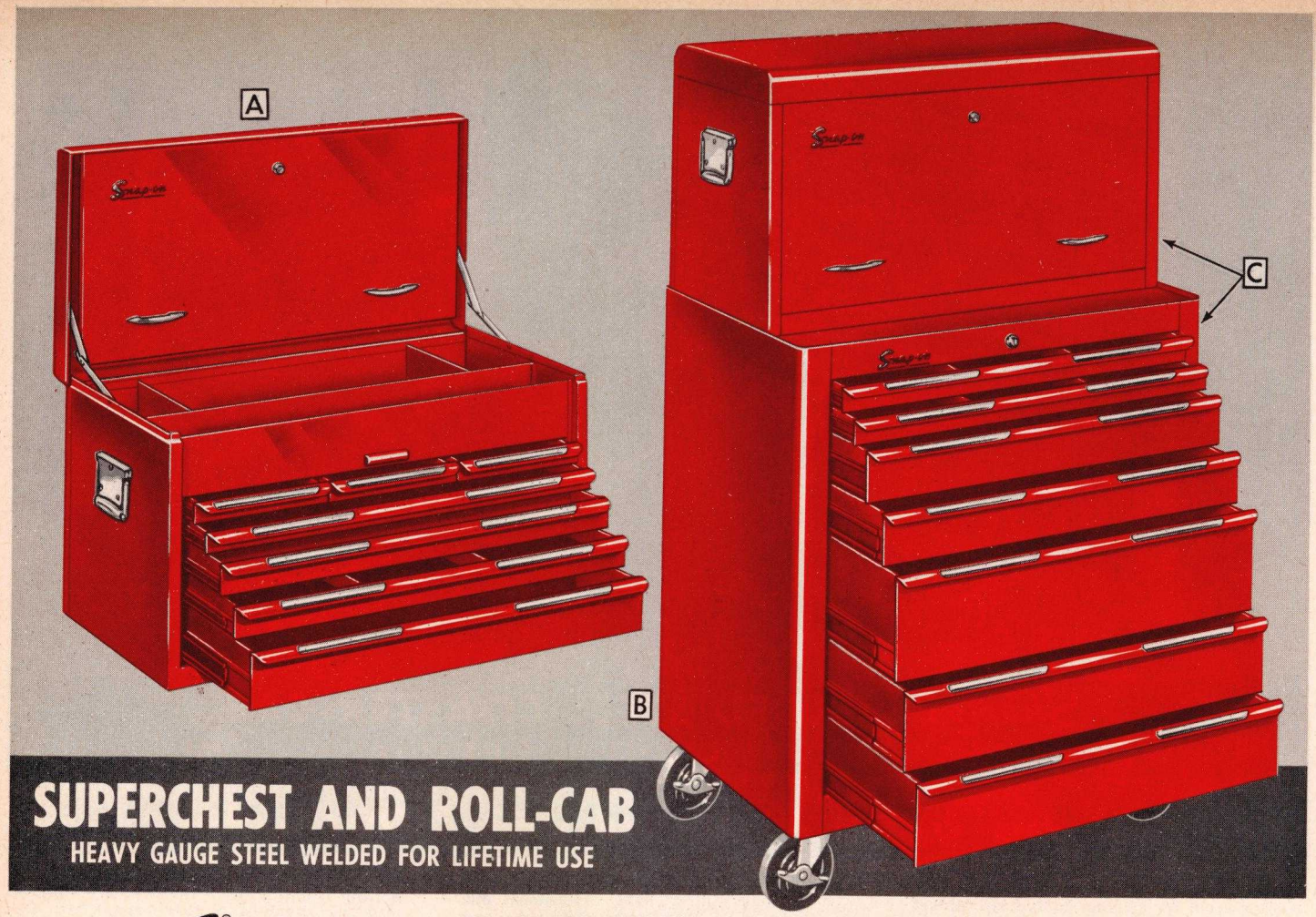
KRA-57A Heavy Duty Chest. Extra strong and rigid for hard, rugged use and to withstand stresses and strains that come from being bounced around in trucks, as is common in road service, oil, telephone, construction, and other fields. It is made of heavier gauge steel than our other models and has more internal bracing and supports, plus closer spot welds. Welded skids add support to the bottom and make it easy to slide around. Skids have tapered ends so that they ride over rough spots and obstructions. They are slightly shorter than the box so that it can be placed on top of a KR-352 Roll Cab if desired.

Drawers have full length pulls and have "non-spill" slide runners — they glide easily when loaded and will not tip, bind or pull all the way out. The front section is piano-hinged to the top and folds up out of the way. When front panel is closed one tumbler lock secures the entire contents . . . an interlocking lip holds it closed when unlocked, preventing tool loss if chest is tipped over.

Specifications

Overall Dimensions: 27⅛" x 13⅛" x 15⅜" high.
Top Compartment: 26½" x 12⅜" x 4" deep divided into three sections 26½" x 4", 8¼" x 5¾", and 20½" x 8¼".
Top Drawers: 11¼" x 7¼" x 1¼" deep, felt lined.
Bottom Drawers: 22¾" x 11¼" x 1¼", 1⅝" and 3¼" deep.
Weight: Net weight 78¼ lbs., Shipping weight 86 lbs.

KTA-3 Tote Tray. Fits top compartment. Not included with chest but may be ordered separately. 20½" x 8" x 3¼" deep.



SUPERCHEST AND ROLL-CAB

HEAVY GAUGE STEEL WELDED FOR LIFETIME USE

Snap-on SUPER COMBINATION HOLDS LARGE TOOL ASSORTMENT

© **KRA-361C SNAP-ON Super Combination.** Made up of KRA-61B and KRA-307. Here is truly the last word in a matching chest and roll-cab . . . so far ahead of any similar equipment that there is absolutely no comparison. It is designed to give you convenient, safe storage for everything from Midget tools to large pullers, drills, etc. It is ruggedly built from extra heavy gauge steel, welded and reinforced for strength and rigidity. Check its net weight of approximately 310 lbs. against any other similar equipment. In addition, it is also an impressive addition to any shop with its rich red baked-on enamel finish and stainless steel trim.

Snap-on SUPERCHEST

Ⓐ **KRA-61B SNAP-ON Superchest.** 7 Drawers segregate your hand tools for fast, convenient selection and checking. Each drawer has full length pulls with stainless steel trim and Non-Spill slide runs for easy action . . . cannot pull out or tip and spill contents. Bottom drawer has extra heavy duty slide runs. Has piano-type hinges, tumbler-type lock, trunk-type carrying handles.

Size: 31" long, 15" wide, 17" high.

Top Compartment: divided into four sections — one fits the KTA-3 Tote Tray (see page 13, not included with chest).

Drawers: 3 are 8½" x 13" x 1" high.
1 is 27½" x 13" x 1" high.
2 are 27½" x 13" x 1⅝" high.
1 is 27½" x 13" x 3¼" high.

Shipping weight 121 lbs., net weight 108¼ lbs.

Snap-on SUPER "ROLL-CAB"

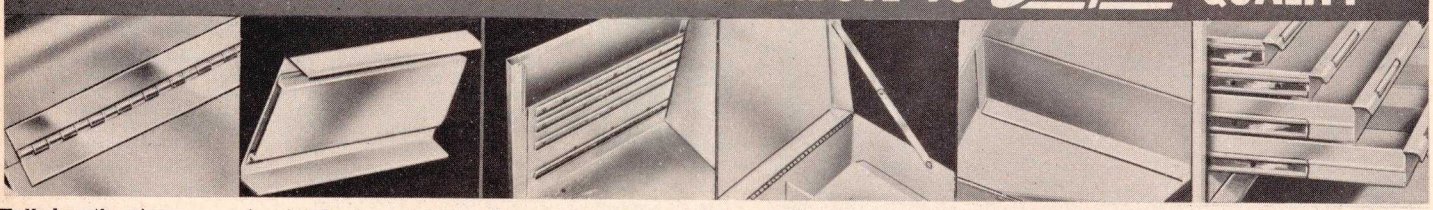
Ⓑ **KRA-307 SNAP-ON Super "Roll Cab."** Just look at the storage space you get in this big Cab. The seven drawers provide four different depths to accommodate small and larger tool units and each drawer has welded partitions that serve the dual purpose of tool segregation and adding rigidity to the drawers. Slide runners placed low increase rigidity and ease of operation, those on the five bottom drawers are extra wide heavy duty type. A stop prevents drawers from pulling out completely and a tumbler lock secures them. The Cab rolls easily on 5" plate-type hard composition casters (2 fixed and 2 swivel).

Overall Dimensions: 36" high (with casters), 31-7/16" long, 21" wide.

Drawers: 2 are 26⅝" long, 15½" wide, 1½" deep.
2 are 26⅝" long, 18½" wide, 2⅞" deep.
1 is 26⅝" long, 18½" wide, 6" deep.
2 are 26⅝" long, 18½" wide, 4½" deep.

Shipping weight 211 lbs., net weight 188 lbs.

THESE IMPORTANT FEATURES CONTRIBUTE TO Snap-on QUALITY



Full length piano-type hinges are used on doors and lids to provide greater strength and finest appearance. They are closely spot welded in position.

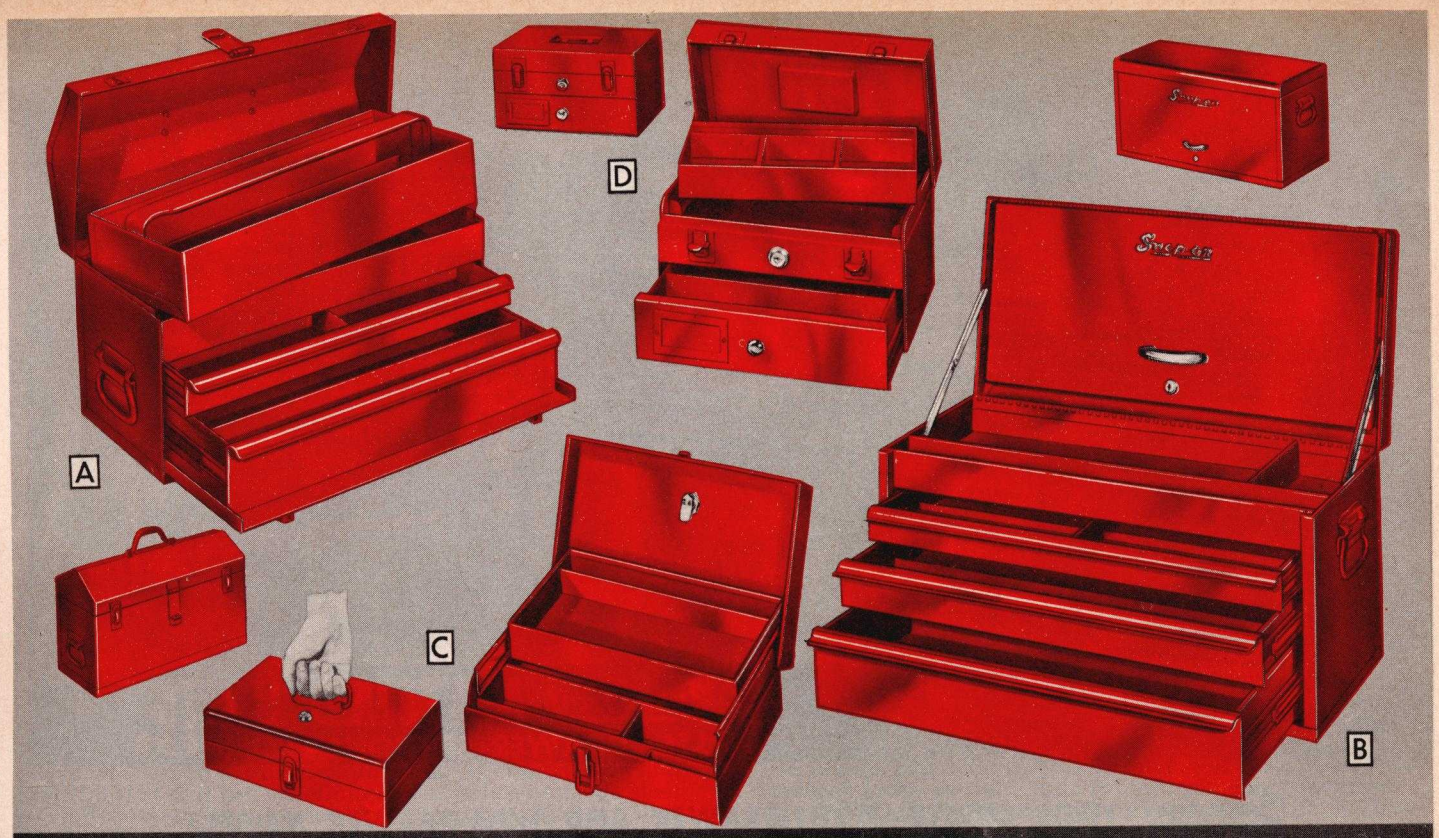
A steel channel panel welded inside the lid adds rigidity and structural strength . . . also helps to prevent any warping of the lid or the hinge.

Drawer runners are attached to extra steel plates welded into the chest and cab. This construction adds to the strength and rigidity of the unit.

A folding brace at each end of the chest holds the lid in open position. Prevents lid from closing accidentally. Easily lowered by pressing brace.

Space dividers also serve as reinforcing braces. Welded to the bottom and the sides of a drawer they help prevent sagging or buckling of the drawers.

Drawers slide easily on full length slide-runs. They will not sag or pull out accidentally and open easily even when heavily loaded with tools or parts.



Snap-on® MAKES A TOOL CHEST FOR EVERY TOOL SET

AND EVERY ONE IS A FINE EXAMPLE OF GOOD DESIGN AND QUALITY

GABLE ROOF "MECHANIKIT"

Ⓐ **KRA-21** A new gable roof "Mechanikit" offers features that make it a favorite of professional mechanics and provide ample space for average set of tools. Lid has full length piano-type hinge. Gable roof provides extra tool space and accommodates handle of KTA-3 Tote Tray which fits in upper compartment and is furnished at no extra cost. The bottom drawer has a sliding tray for small tools and parts. Each drawer is fitted with "non-spill" slide runs which permit drawers to open without sagging or falling out. Drawers always glide easily.

Heavy gauge steel is electrically welded for rigidity and strength. When open, the piano hinged front drops down out of the way of the drawers. When closed, the front secures to top with hasp fasteners and has strong padlock hasp for locking chest. Suitcase handle at top and trunk handles at the sides makes handling easy. Finished in beautiful baked-on red enamel. For all-around convenience this "Mechanikit" is tops.

Specifications

Overall Dimensions: 21" long, 8¾" wide and 11¼" high.
Top Drawer: 19¾" x 7¾" x 1½".
Bottom Drawer: 19¾" x 7¾" x 3".

QUALITY "MECHANICHEST"

Ⓑ **KRA-53** One of our best tool chests and embodies *all* of the superb construction features shown at the bottom of this and the opposite page. Heavy welded construction, full length piano-type hinge. Drawers have non-spill slides. Top compartment has 3 sections, will accommodate the KTA-2 Tote-Tray listed below. *Note:* Tray is not included with Chest. Front cover has tumbler lock. Panel swings out of way when lid is lifted. Lid has two folding brackets to hold it open. Big trunk-type side handles give portability. Here's the perfect Chest to store and protect your valuable tools. The red enamel baked-on finish makes it a good looking chest on any work bench.

Specifications

Overall Dimensions: 24⅛" long, 10½" wide and 11¾" high.
Top Compartment: 1¾" deep, divided into 3 sections 23⅞" x 2¼", 19½" x 7⅜" and 7⅜" x 4¼".
Top Drawer: 21¾" x 8⅞" x 1⅜" divided into 4 sections.
Middle Drawer: 21¾" x 8⅞" x 2" divided into 2 sections.
Bottom Drawer: 21¾" x 8⅞" x 3⅜" no divisions.
Net weight 39½ lbs. Shipping weight 45 lbs.

MIDGET TOOL CHEST

Ⓒ **KRA-65B Midget Tool Chest.** Top section moves back on slide channels. Compartments segregate the contents, larger tools fit into bottom sections. Overall size: 11¾" long, 7⅜" wide and 3½" high. Made of heavy gauge steel, spot welded throughout. Two sturdy hinges and tumbler lock secure the contents. Metal handle makes chest convenient to carry. The Midget Chest is finished in baked-on red enamel.

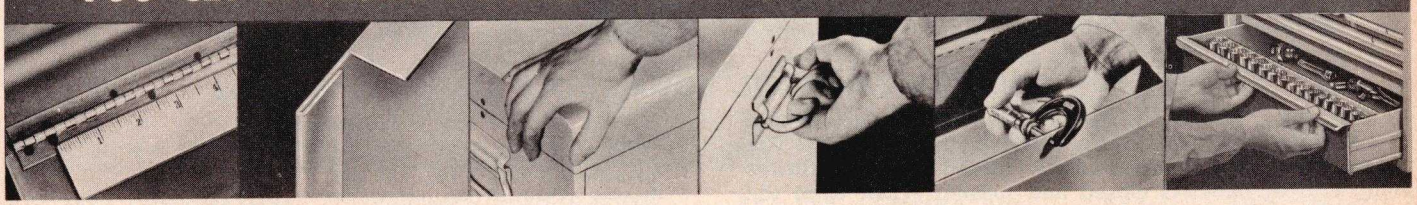
ELECTRONICS TOOL KIT

Ⓓ **KRA-149** is primarily designed to hold electronic assembly tools. The chest is made of heavy gauge steel spot welded throughout. A piano-type hinge, two hasps, and tumbler type lock secure the contents. A metal handle makes the chest convenient to carry.

The top compartment and removable tray are divided into sections to segregate contents. A sliding drawer is located in the lower section of the chest and is divided into two sections for larger tools.

Overall size: 11⅞" long, 7 5/16" wide and 6⅝" high.

YOU GET A MORE RUGGED CHEST AND BETTER TOOL PROTECTION



Note how close the spot welds are on a SNAP-ON chest or cab . . . only 2½" to 3" apart. Extra welds mean extra dollars worth of wear for you.

Wherever it is practical to add strength or rigidity, edges are double rolled. This more costly type of construction adds years of satisfactory use.

Rounded welded corners and edges are smoothed with file and emery cloth before the rich red enamel finish is applied to the metal.

Sensible trunk type carrying handles. Strong enough to lift the heaviest chest load . . . big enough to hold without pinching or cutting fingers.

All chests, Roll cabinets, benches and trays are made of heavy gauge steel to provide strong, rigid construction and long life. Tools deserve protection.

Most drawers are full length to accommodate your longer, larger tools —other drawers are divided to allow you to segregate various tools.



Snap-on® TOOL CHESTS—EIGHT-DRAWER AND NINE-DRAWER MODELS

A handsome combination of SNAP-ON Tool Chest, Drawer Section and Roll-Cab parked in your stall marks you as a mechanic who takes pride in his work; a man who will not settle for anything but the best — either in his work or his equipment. It stamps you as a man who knows that top quality tools and equipment actually cost less in the long run — even more important, that they contribute maximum working efficiency to your knowledge and mechanical ability.

These SNAP-ON Tool Chests are the popular choice of thousands of mechanics and are offered in two models with drawer arrangements to suit your particular tool storage needs. The open top compartment has partitional sections, one of which will hold a KTA-3 Tote Tray. This tray is shown and listed on page 13 and is not furnished with either of the tool chests listed on this page.

The Tool Chests are exceptionally well made and embody all of the best SNAP-ON construction features including those illustrated on pages 10 and 11. Full length piano-type hinges attach the cover and the swinging front panel, and the cover is given added strength and rigidity through reinforcing channels welded underneath. The front panel has a tumbler-type lock and swings down and locks in front of the drawers to provide protection for all the contents.

All drawers have full length roll-type pulls, they are fitted with easy sliding side channels and cannot pull out completely and spill the contents, yet are easily removed if necessary. Close spot welding of the heavy gauge steel adds ruggedness and durability, edges are double-rolled wherever practical to add strength and rigidity. Each chest has sturdy trunk-type handles.

There's a lot of drawer space in those big chests and when you combine one with a Drawer Section and the KRA-352A Roll-Cab you have a tool storage outfit second to none. Each unit is designed to fit perfectly with the others.

Ⓐ **KRA-58C Tool Chest.** Finished in baked-on red enamel.
KGA-58C Tool Chest. Finished in baked-on grey enamel.

Specifications of Above Chests

Overall Dimensions: 26" long, 12" wide, 14" high.
Top Drawers (3 included) 7½" x 10½" x 1-3/16" deep.
Top Drawers (2 included) 7½" x 10½" x 1-11/16" deep.
Top Drawers (2 included) 7½" x 10½" x 2" deep.
Bottom Drawer (1 included) 24" x 10½" x 1-15/16" deep.
Bottom Drawer (1 included) 24" x 10½" x 2-13/16" deep.
Weight: Net 67 lbs., Shipping 71 lbs.

Ⓑ **KRA-55 Tool Chest.** Same specifications as the KRA-58C except that it has only one each of the top drawers $1\frac{11}{16}$" and 2" deep and has instead one small drawer $3\frac{3}{16}$" deep.

Snap-on® DRAWER SECTIONS—YOUR CHOICE OF THREE MODELS

Whether you need deep drawers, shallow drawers or a combination of both you can get exactly what you want in these popular Drawer Sections. Not only can you use one section in combination with the KRA-352A Roll-Cab and the Tool Chests shown above, or the KRA-56A on page 13, but the sections are designed for stacking one on top of another . . . three, four or more, according to your tool or parts storage requirements . . . metal corners protrude to prevent units from moving. Each unit has strong, trunk-type handles and has baked-on red enamel finish.

Drawers have full length pulls and non-spill slide-arms. A tumbler lock on one drawer locks all drawers.

Ⓒ **KRA-428 Drawer Section.** Two deep drawers.
Ⓓ **KRA-429 Drawer Section.** One deep and two shallow drawers.

Specifications of Drawer Sections

Overall Dimensions: 26" long, 14¾" wide, 8⅛" high.
Shallow Drawers: 24⅝" x 13½" x 1-19/32" deep.
Deep Drawers: 24⅝" x 13½" x 3⅜" deep.
Approximate Weight: Net 42 lbs., Shipping 48 lbs.

Snap-on® ROLL-CAB TAKES ALL YOUR TOOLS RIGHT TO THE JOB

Ⓔ **KRA-352A "Roll-Cab", Red Enamel Finish.** A companion unit for SNAP-ON Tool Chests as illustrated on page 13. The roomy drawers are automatically locked when the lower compartment panel is closed and locked. When open the panel slides in under the drawers. Three reinforced drawers have wide, heavy duty, no-spill slide runs and slanted fronts with full length drawer pulls. Extra heavy gauge steel and welded construction give you a rugged cab that will assure long, dependable service. Easy glide 4" casters (2 swivel, 2 fixed) allow cab to be rolled to the job with ease.

Specifications

Overall Dimensions: 26⅝" x 19⅛" x 26½" deep (31¼" to floor).
Drawers: All are 21⅝" x 17⅝" x 3⅞" high.
Compartment: 26½" x 19" x 12" high.
Shipping Weight: 131 lbs., net 108 lbs.

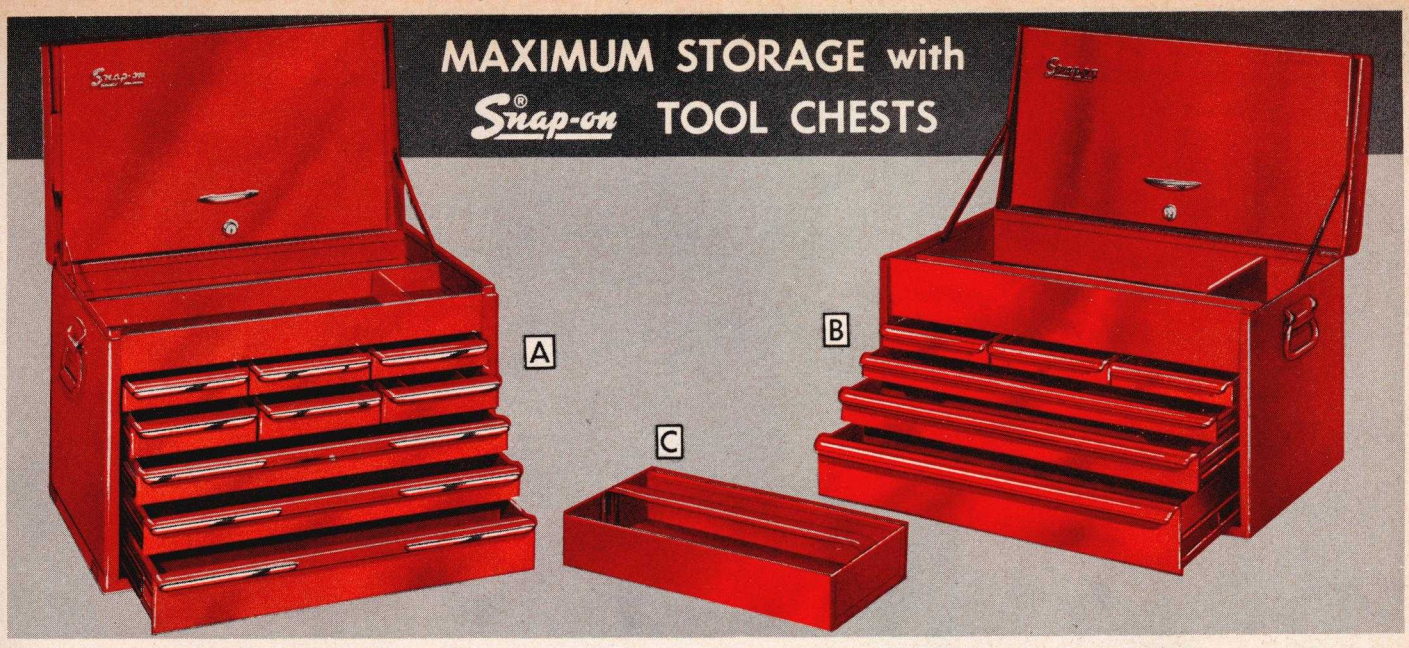
KGA-352A Roll-Cab. Same as above, but with grey enamel finish.

KRA-362B Combination. Two units, the KRA-58C Chest and the KRA-352A Roll-Cab. Red enamel finish.

KGA-362B Combination. Two units, KGA-58C Chest and KGA-352A Roll-Cab. Grey enamel finish.

For other Combinations see listings and illustrations on opposite page.

MAXIMUM STORAGE with Snap-on TOOL CHESTS



WITH Snap-on YOU BUILD YOUR CABINETS AS YOUR TOOL EQUIPMENT GROWS

Start with the unit that fits present needs and add a unit as your tool equipment grows. Here is quality construction and material that will last indefinitely. Extra heavy gauge steel is used throughout and electric welded construction with reinforced tops and sides assures rigid non-warping units and drawers. Drawers in all units are easy gliding slide-run — can't sag, bind or pull out and spill tools. High grade tumbler locks on each unit protect your tool investment. For the details of construction see pages 10 and 11. All units finished in baked-on red enamel.

KRA-59A LARGE TOOL STORAGE CHEST

Ⓐ **KRA-59A Tool Chest.** Fits on top of the KRA-352A Roll-Cab but provides 50 percent more space than KRA-56A. The KTA-3 Tote Tray (not included with chest) will fit into one of the top compartment sections. Bottom drawer has no dividers, other long drawers have partitions. Drawer pulls have stainless steel trim. Covers have continuous hinges, and combination cam-type lock and bar locks secure the chest at five points — only one key is needed. Skid rails under the chest permit sliding it over rough surfaces without damage. The six small drawers have cork lined bottoms.

Overall Dimensions: 26" long, 14¾" wide, 17⅜" high.

Top Compartment: 3⅛" deep — divided into 3 sections, 25⅝" x 5⅝", 20¾" x 8⅜" and 4⅞" x 8¼".

Drawers Top rows each 7" x 13⅛" x 1-15/16" high.
Second row, each 7" x 13⅛" x 1-15/16" high.
Large drawers, top two are each 23⅛" x 13⅛" x 1-15/16" high.
Bottom one is 23⅛" x 13⅛" x 3¼" high.

Shipping weight 97 lbs., net 87 lbs.

KRA-56A BIG, SIX DRAWER TOOL CHEST

Ⓑ **KRA-56A Tool Chest.** Full length piano-type hinges which connect the lid and the front panel to the chest add rigid strength and good appearance. Lid has inner reinforcing. Front panel lifts up out of the way and two folding brackets hold the lid open. Strong trunk handles make carrying easy. Top compartment will hold the KTA-3 Tote-Tray listed below (not included with chest). Skid runners attached to bottom of chest aid in transporting it when loaded. Bottom drawer has wide, extra heavy duty slide runners . . . helps prevent drawer sagging when heavily loaded.

Overall Dimensions: 26" long, 12" wide, 14" high.

Top Compartment: 3½" deep — divided into 3 sections, 20½" x 8½", 25¾" x 3¼" and 8½" x 5".

Drawers: 3 are 10½" x 7½" x 1" high — 3 are 24" x 10½", and are 1", 1¾" and 3½" high respectively.

Shipping weight 70 lbs., net 63 lbs.

TOTE TRAY

Ⓒ **KTA-3 Tote Tray.** Fits the chest shown above. Has socket compartment. Tray is 20¼" x 8" x 3¼" high. Net weight 1 lb. 4 oz.

2 AND 3 DRAWER COMBINATION CABINETS ARE "TOPS"



KRA-359A COMBINATION

Consists of KRA-352A Roll Cab, the KRA-429 three-drawer section with KRA-56A Tool Chest stacked on top. This is a lot of "cabinet" and allows you to arrange space as you need it to provide working convenience.

KRA-357A COMBINATION

A low priced unit yet with plenty of space to take care of most needs. Has popular KRA-56A Tool Chest stacked on top of KRA-352A Roll Cab. The portability of the combination makes it handy for shop or factory use.

KRA-360C COMBINATION

A three unit combination made up of the KRA-352A Roll Cab, the popular KRA-429 3-Drawer section and the KRA-58C Chest. This excellent storage outfit gives you a drawer arrangement to take the largest tool kit.

KRA-370A COMBINATION

These two units provide plenty of storage space for a wide range of tools, large and small. The KRA-352A Roll-Cab gives you the portability you need and the big KRA-59A Tool Chest has an excellent drawer arrangement for tool segregation.

Snap-on® ROLL-CAB FOR HEAVY DUTY INDUSTRIAL WORK



KRA-396 Industrial Roll Cab — A portable work-shop designed to withstand long, hard service and provide ample storage space for easy transport to the job.

Six spacious drawers accept a wide variety of tool shapes and sizes. Drawers are equipped with non-spill slide runners which glide easily, even when drawers are loaded with tools. One tumbler type lock secures all drawers to protect contents against theft.

A large vertical storage compartment with two removable shelves is especially useful for storing large items. A tumbler lock secures the door for safe storage. Door has full length hinge.

A bin type compartment divided into eight sections accommodates small parts and fittings, and is located in the rear of the cab. A ¾" lip prevents parts from rolling out of compartments and a hinged door (shown in open position) secures the whole section.

Four heavy duty rubber tired wheels (two of which swivel) provide easy transport of the cab. Brakes on the swivel wheels lock both the swivel and the rolling action. A chromium plated bar handle is provided for manual movement, and a tongue-hitch permits attachment to a powered vehicle for long hauls.

KRA-303 Accessory Junction Box — This optional item has a three-conductor inlet and two three-conductor outlets. Ten feet of No. 16 three-conductor cord and fittings are included.

SPECIFICATIONS

Overall Dimensions: 48" x 30½" x 37-3/16" top to floor.

Cabinet Dimensions: 45" x 24" x 30-1/16".

Rear Bin Compartment: 27⅛" x 17-5/16" x 6" front-to-back divided into 8 bins, 13⅜" x 6", 4½" high.

Drawers:

Two top drawers 26-11/16" x 15-3/16" x 1-11/16" deep. (This drawer has a 1" high lengthwise divider.)

3rd & 4th drawers 26-11/16" x 15-3/16" x 3" deep.

5th drawer 26-11/16" x 15-3/16" x 6-5/16" deep. (This drawer has a 1" high, lengthwise divider.)

6th drawer 26-11/16" x 15-3/16" x 7-9/16" deep. (This drawer has a 1" high, front-to-back divider.)

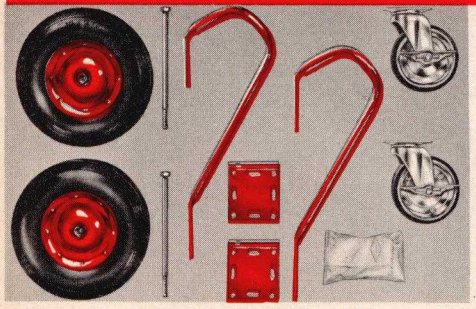
Vertical Compartment: 15-3/16" x 23-13/16" x 28½" high.

Removable shelves: divide height into three equal sections.

Wheels: Two fixed wheels, 8" diameter, 1¼" tread width.

Two swivel wheels, 5" diameter, 1¼" tread width. (Equipped with combination swivel tire lock brake.)

KRA-446 ROLL-CAB CONVERSION KIT



- **Fits Most SNAP-ON Roll Cabs**
- **Converts to 2-Wheel Mobility**
- **Large Handles and Big Wheels for Easy Transport**
- **All Components, Parts and Hardware Are Included**
- **Easily Installed on Your Present SNAP-ON Roll-Cab, (Except the KRA-396 Industrial Cab Above)**

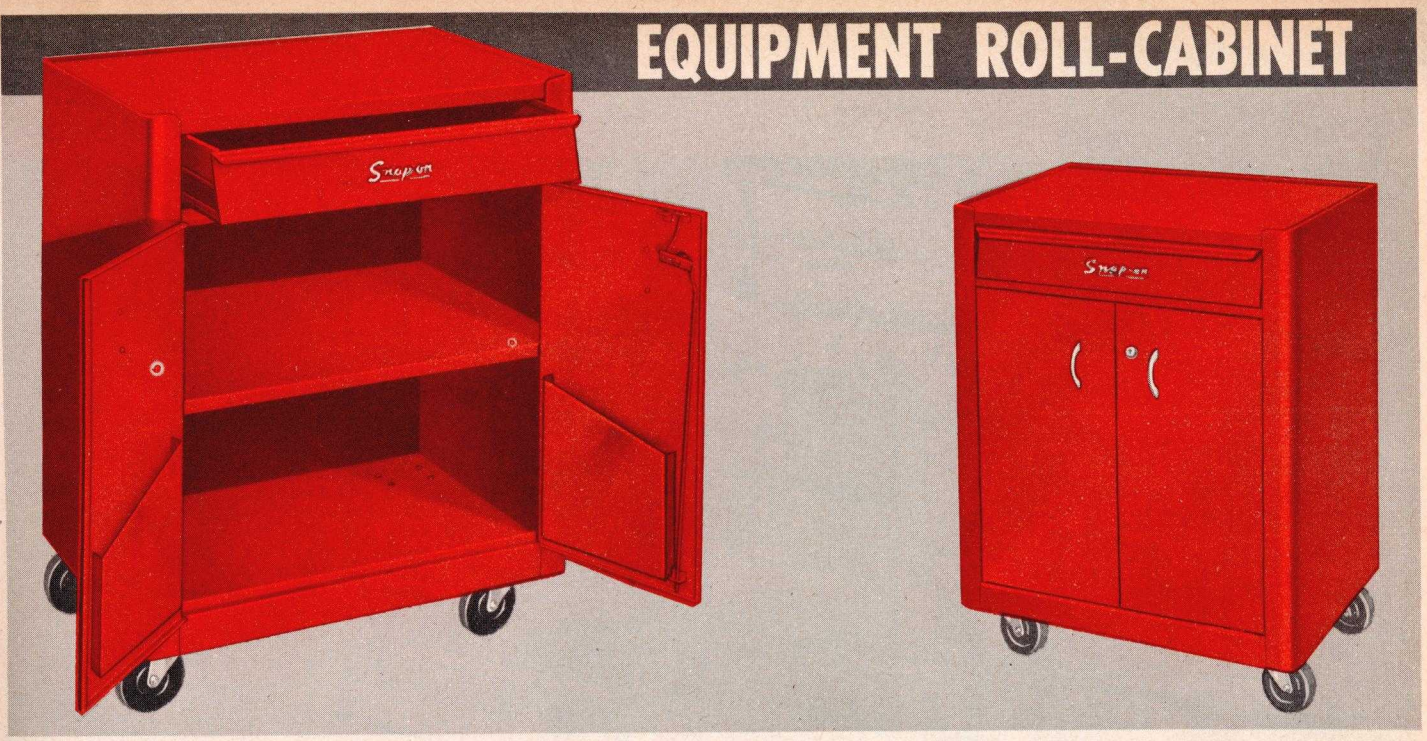
KRA-446 Conversion Kit. Adds two-wheel portability to your four-wheel Roll Cab. With your Roll Cab converted, you can move it up or down stairs, over rough floors and other uneven surfaces with ease. Take a complete tool assortment to those difficult to reach service areas on other floors or even outside of a building. The heavy duty wheels are built to withstand the shocks and jars encountered, yet roll easily even with the Roll Cab fully loaded. Large handle bars provide ample leverage and good control of the cab during transport.

The set consists of two large, specially formed handle bars, two big 10" diameter semi-pneumatic, ball bearing wheels, two 5" diameter lock-type swivel casters, axle assemblies, and all necessary hardware to complete the conversion. Complete instructions are included with each kit.

Illustration shows the kit used to convert a KRA-377A SNAP-ON Coaster-Cab (page 9) to the convenience and ease of two-wheel mobility . . . saves time and effort. Convert your Roll-Cab now . . . you'll be glad you did.



EQUIPMENT ROLL-CABINET



A STURDY ROLL-CAB ADAPTABLE TO MANY USES IN SHOP OR FACTORY

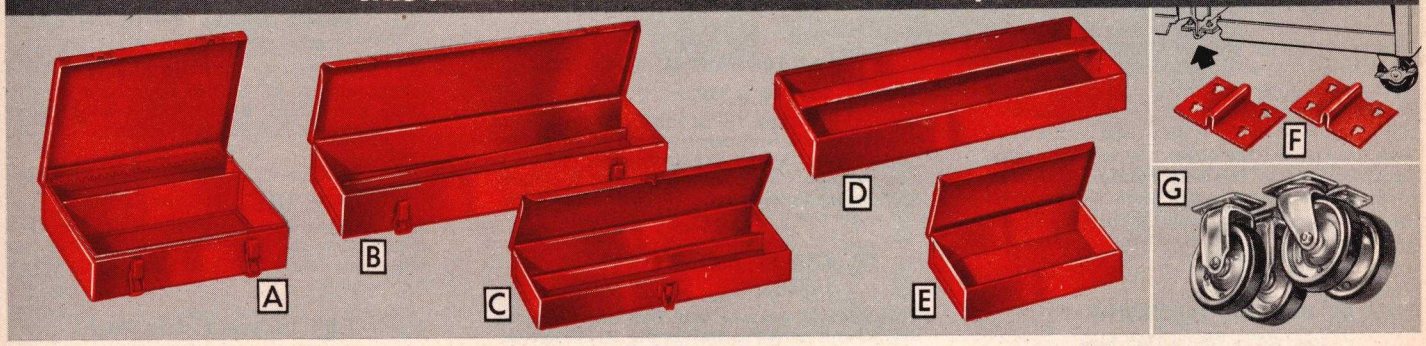
KRA-315B Roll-Cab is especially designed as a work bench and storage cabinet for test instruments and accessories, parts, etc. It is built of heavy gauge steel with welded construction to withstand hard usage for a long period of time. It provides a fast, easy method of taking tools and testing equipment right to the job. All four wheels are swivel-caster type for maximum maneuverability in restricted areas.

The reinforced top accommodates either large test instruments or heavy tool chest and a metal lip encloses three sides to prevent tools from sliding off. The large drawer is invaluable for parts and tools and glides easily on heavy duty runners, it cannot tip or be pulled all the way out by accident and its slanted front prevents the full length pull from projecting beyond the cab front.

The two doors have metal literature pockets on the inside and one tumbler-type lock secures both doors and the drawer. Top is 19" x 26½" wide. Drawer is 18¼" x 21½" x 4⅛" deep. Lower section has a convenient shelf. Area above shelf is 19" deep, 26½" wide and 11" high; area below shelf is 13¼" high. Overall dimensions including casters are 26⅝" wide, 19¼" front to back and 34¾" high. Net weight is 102 pounds.

This Roll-Cab is finished in bright red enamel, baked on for long wear and beauty.

MISCELLANEOUS SMALL METAL BOXES, ETC.



Ⓐ KRA-155 METAL BOX

SIZE: 12" x 9" x 2½" Deep

Here is a new all purpose box which can be utilized to hold a variety of tool combinations. This unit is sturdily built and has a 2" wide partitioned section for containing sockets or other small units. A convenient carrying handle is located in the center of the top. The cover is held securely in place by two hasp-type latches, and it incorporates a full length piano-type hinge. The box has a red enamel finish.

Ⓑ KRA-116 METAL BOX

SIZE: 20" x 6" x 2½" Deep

An all purpose type box which can be utilized for a wide variety of tool storage applications. The box is sturdily built, and has a low partition which runs the full length of the box for sockets, etc. Two latches secure the lid and a convenient carrying handle is located in the center of the top. Box has a baked-on red enamel finish.

Ⓒ KRA-279 METAL TOOL BOX

SIZE: 15-3/16" x 5" x 2" Deep

An excellent general purpose box that will prove very useful for a wide variety of tool and parts storage applications. This box is equipped with a low partitioned section that runs the length of the box and is 1¾" wide. Cover has a full length piano-type hinge. A hasp type latch secures the contents. The box has a red enamel finish.

Ⓓ TOTE TRAYS

Handy for transporting a selection of tools to the job. Carrying handle runs the full length of the tray. Red enamel finish.

KTA-2 Tote Tray. 19⅛" x 7" x 3" deep. Will fit into the top of chests such as the KRA-53.

KTA-4 Tote Tray. 19$\frac{13}{16}$" x 7" x 2⅜" deep. Will fit into the KRA-30A metal box shown on page 16.

Ⓔ KRA-40 METAL BOX

SIZE: 9½" x 5½" x 2" Deep

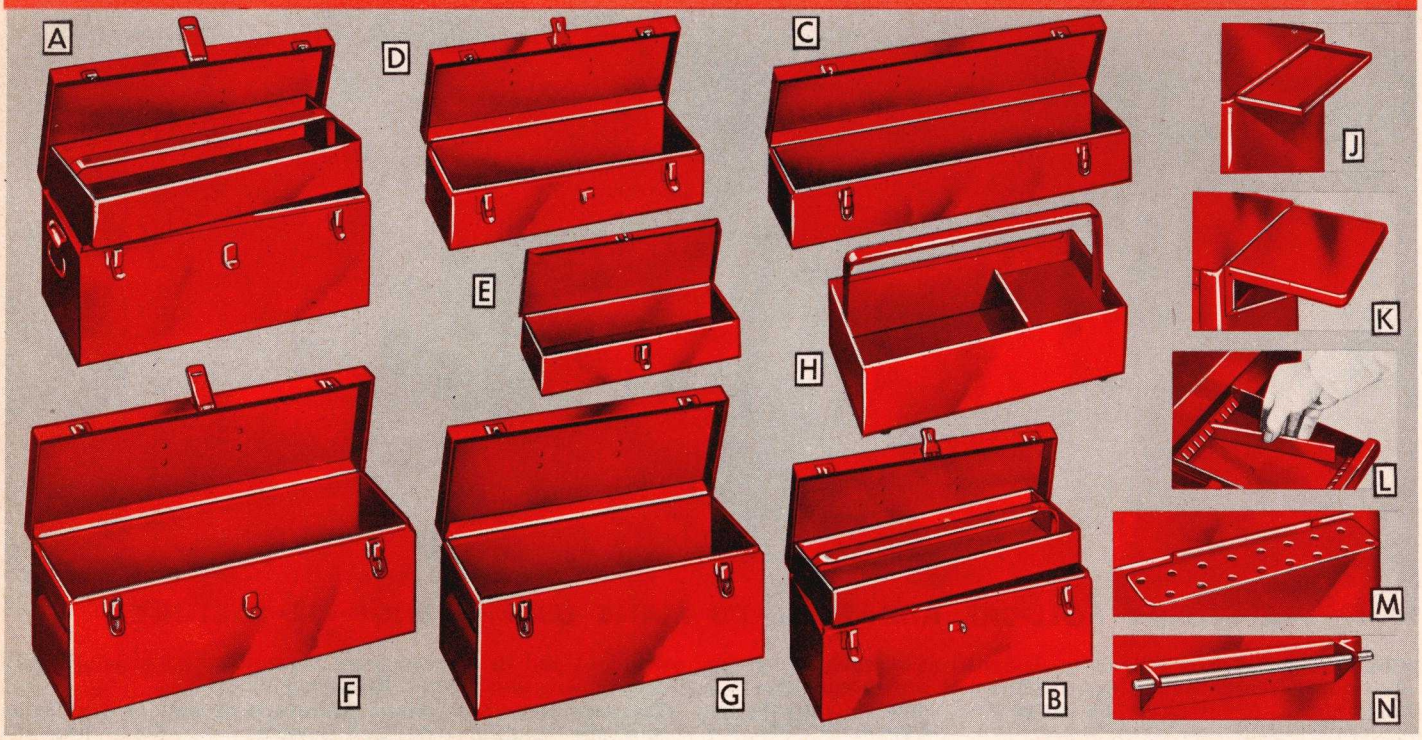
Designed to hold small sets or to segregate miscellaneous items from larger sets and keep them clean. Made of heavy gauge steel spot welded for rigid strength. Lid has a full length piano-type hinge. Box has a baked-on red enamel finish.

Ⓕ **KRA-403 Roll Cab Joiner Set** designed for attaching 2 similar roll cabs together providing convenient access and mobility to a large number of tools.

Ⓖ **KRA-445 Heavy Duty Caster Set** is desirable when extremely heavy loads are prevalent or when Roll Cabs are used in areas where there are rough or uneven floors, etc. They are ¼" wider and 1" larger in diameter than our 4" diameter casters. This set can be used on the KRA-315B, KRA-352A, KRA-377A and KRA-300B.

"MECHANIKITS"—SMALL BOXES—ACCESSORIES

PROTECT YOUR TOOLS—PROVIDE WORKING CONVENIENCE



MADE OF HEAVY GAUGE STEEL—SPOT WELDED FOR RIGIDITY AND LONG SERVICE

Ⓐ KRA-25 "MECHANIKIT"

Size: 21⅛" x 8¾" x 9" high.

Here is an exceptional value in a tool box. It gives you plenty of room to carry all the tools you are likely to need on the job — gives you a large size, sturdily constructed tool chest, complete with a handy tool tote-tray, at low cost.

The heavy gauge steel is electrically welded to provide rigidity and durability. Three heavy steel hinges are welded in place. Large trunk-type handles are welded to the ends of the chest. Two lever-type clasps and a pad-lock hasp secure the cover. Cover is box-type to accommodate the tray handle. Tote tray measures 20¼" x 8" x 3¼" high and is partitioned to segregate tools. Finished in red enamel.

Ⓑ KRA-24 "MECHANIKIT"

Size: 20" x 7¾" x 7¼" high.

This tool box is slightly smaller than the one above, but it is made of the same heavy gauge steel welded for rigid strength. A large carrying handle is fastened to the top of the cover. Cover is fastened with two lever-type clasp fasteners and a pad-lock hasp and it has two sturdy hinges. The partitioned tool tote tray is furnished with this Mechanikit. Box and tray have a red enameled finish.

Ⓒ KRA-109 METAL TOOL BOX

Size: 25½" x 6" x 4½" high.

This long tool box can be easily carried by the fold-down handle on the cover. It is a sturdy, well built box suitable for those longer, bigger tools. It has three heavy butt-type hinges welded to the cover, and two tension lever type clasps. Heavy gauge steel is electrically welded for long life and rigidity. Red enamel finish.

Ⓓ KRA-251 METAL TOOL BOX

Size: 18½" x 6⅝" x 4½" high.

Designed for use where only a small number of tools are needed. Has metal suitcase type handle. Cover is held in place by three sturdy butt hinges and secured by two clasps. A latch on the front permits locking the box with a padlock.

Ⓔ KRA-104 METAL TOOL BOX

Size: 14" x 5⅛" x 2½" high.

An excellent box for storing and protecting valuable parts or tools, in the shop or on the job — keeps them away from dust and misuse. Has two welded-on hinges and one clasp. Spot-welded construction. Red enamel finish.

Ⓕ KRA-32 METAL TOOL BOX

Size: 25" x 7¾" x 7⅛" high.

This general purpose tool box has the same design and construction as the KRA-30A below. It is smaller as to width and depth, but its 25" length accommodates such pieces as gear puller slide shafts, etc. Red enamel finish.

Ⓖ KRA-30A METAL TOOL BOX

Size: 20½" x 8¾" x 8¾" high.

Solid construction and low price make this tool box a fine value to the man with only a limited number of tools to protect. While made of slightly lighter metal than in our standard line of boxes, it is rugged enough to withstand years of normal use. Instead of usual handles, the ends of the box are formed to provide finger grips. This feature also provides supports inside the box for a KTA-4 Tote Tray shown on page 15. The tray is not includel with this tool box and must be ordered as a separate item. A strong suitcase-type handle is attached to the top of the cover which is secured by two tension lever clasps, one of which can be padlocked. Finished in red enamel.

Ⓗ KTA-5 LARGE TOTE TRAY

Size: 18" x 10" x 4½" high.

This large, sturdy tray is extremely useful where many tools must be carried to the job. A 10" x 6" shelf is handy for sockets, etc. The high handle provides knuckle clearance. Tray has four rubber feet.

Ⓙ KRA-406 SMALL HANG-ON TRAY

Size: 14" x 6" x ⅝" deep.

Will hang on any Roll-Cab having a ⅜" or larger top lip or on the edge of a drawer. Does not attach permanently. It is handy for laying out small tools or parts.

Ⓚ KRA-412 FOLDING SHELF

Size: 15⅛" x 12" with ¼" lip.

Bracket slips over raised lip of cab and shelf is hinged to the bracket . . . folds out of way when not needed. Bracket has drilled holes for bolting.

Ⓛ DRAWER DIVIDERS

For partitioning any drawer 1" high or higher. Cut two lengths of slotted strip and one of divider strip and set in drawer as shown. Slots are $1\frac{1}{32}$" apart.

KRA-12 Set. Consists of one slotted and one divider strip below.
KRA-10 Slotted Strip. 32" long.
KRA-11 Divider Strip. 32" long.

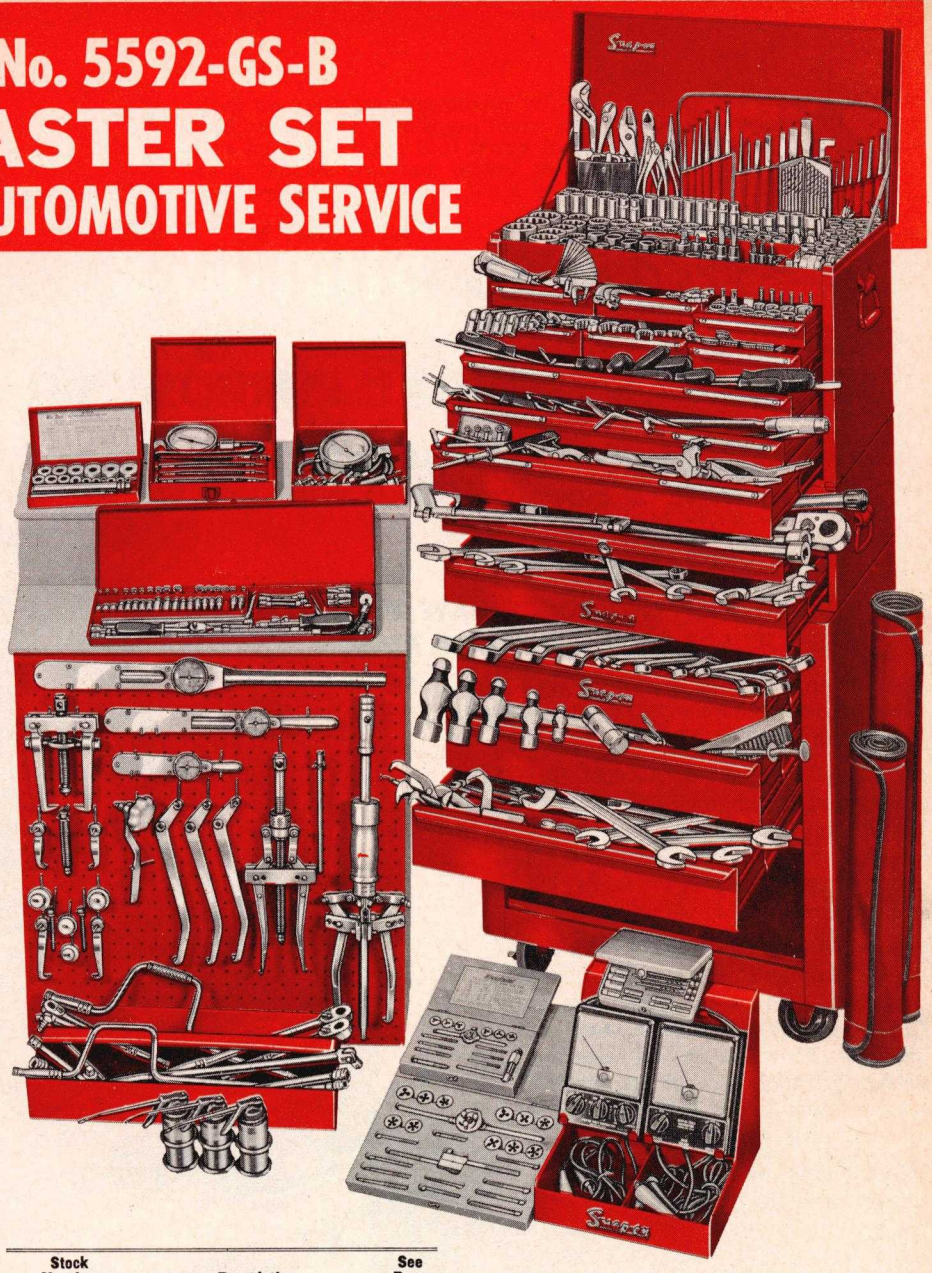
Ⓜ KRA-16 HANG-ON VALVE RACK

Has 16, $1\frac{1}{16}$" diameter holes to hold valves during engine overhaul. Hangs on any cab or chest having a ¼" or larger lip. 20¼" x $4\frac{5}{32}$" x 12¼" long hanging lip.

Ⓝ ROLL-CAB PUSH-BAR HANDLE

Hangs onto lip of Roll-Cab and is attached by drilling four holes in side of cab and bolting securely. Holes are factory drilled in handle bracket. Chromium plated bar.
KRA-402 Handle, with red bracket
KGA-402 Handle, with grey bracket

Snap-on No. 5592-GS-B
SHOP-MASTER SET
FOR GENERAL AUTOMOTIVE SERVICE



592 TOOLS AND SPECIALIZED SETS ESSENTIAL FOR COMPLETE SERVICE

No matter how skillful a man may be or how much mechanical knowledge he may have he still cannot work without tools. In order to operate efficiently and turn out the type of service and repair work that builds customer satisfaction and brings a profitable return on his labor, the mechanic who wants to get ahead considers a complete tool set an investment in his future.

Here is such a set. It contains all types of wrench equipment in complete ranges of sizes and includes Impact and Torque wrenches. Every standard type of mechanic's tool is provided together with special tools for brake service, valve work, etc. The selection also includes instruments and gauges for engine tune-up, tap and die sets, an electric drill, interchangeable gear puller parts, and many other items, even a seat cover and fender cover. Adding mobility to the Shop-Master Set is the KRA-352A Roll-Cab, KRA-429 Drawer Section and KRA-59A Tool Chest.

Invest in your future NOW. Your SNAP-ON dealer can arrange a SNAP-ON conditional sales contract for you.

5592-GS-B Shop-Master Set. Contains all items listed below.

5592-GS Set. Above set, but without the KRA-59A Chest, KTA-3 Tote-tray, KRA-429 Drawer Section and KRA-352A Roll-Cab.

Stock Number	Description	See Page
167-TM-B	Midget Socket Wrench Set	30
299-F	Ferret Socket Wrench Set	38
377A-M	Master Socket Wrench Set	44
414A-HD	Heavy Duty Socket Wrench Set	48
309B-IMB	Set—Impact Flexockets	56
316-IM	Set—Impact Hex Sockets	57
A-157A	Bushing Driver Set	106
CJ-105	Gear Puller Set	123
CJ-282B	Gear Puller Set	122
CX-605	Half Moon Boxocket Set	65
DB-113	Drill Set—1/16" to 1/4"	103
DS-806-K	Ignition Wrench Set	69
E-1020	Screw & Stud Extractor Set	50
FH-607-B	Flexhead Wrench Set	68
LTA-808	Tappet Wrench Set	69
MT-308E-B	Compression Gauge Set	142
MT-311C-B	Vacuum Gauge Set	142
OC-40	Oil Can Set	99
OEX-714	Long Combination Wrench Set	73
OEXS-709	Short Combination Wrench Set	73
PPC-200-K	Chisel and Punch Set	75
RB-606S	Ratcheting Boxocket Set	65
RXH-607S	Flare Nut Wrench Set	66
SCD-30	Cabinet Screwdriver Set	78
SS-30N	Screw Starter Set	79
SSDS-50	Standard Screw Driver Set	76
SSDP-50	Phillips Screwdriver Set	77
TD-2400A	Tap-Die Set—1/4" to 1/2"	60
TD-2500	Tap-Die Set—4-36 to 12-24	60
VSQ-815	Open-End Wrench Set	71
XI-604A-K	Midget Boxocket Set	63
XV-619	Boxocket Wrench Set	62
020	1/4" Offset Screwdriver	79
030	5/16" Offset Screwdriver	79
6-M	6" Mill File	128
8-HR	8" Half-Round File	128
9C	8 3/4" Gripping Plier	81
10-M	10" Mill File	128
47	7 1/2" Gripping Plier	81
50C	5" Gripping Plier	81
70A	Lock Ring Plier	84
85	4 7/8" Diagonal Cutter	82
87	7 1/4" Diagonal Cutter	82
96	7 1/8" Needle Nose Plier	83
131A	Brake Spring Plier	84
208A	7 3/4" Battery Plier	81

Stock Number	Description	See Page
650	6" Pry Bar	75
1650	16" Pry Bar	75
A-91B	Strap Wrench	94
A-161A	Door Panel Remover	130
AC-58B	Wire Brush	96
ACD-12	Distributor Cleaning Brush	93
B-1458	Brake Bleeder Wrench	91
B-1461	Brake Adjusting Tool	91
B-1462	Brake Adjusting Tool	91
B-1463	Brake Bleeder Wrench	91
B-3404B	Brake Adjusting Tool	91
BH-92	1/2 lb. Plastic Tip Hammer	84
BL-41A	Brake Cyl. Clamp Set	90
BP-4	4 oz. Ball Peen Hammer	84
BP-12	12 oz. Ball Peen Hammer	84
BP-20	1 1/4 lb. Ball Peen Hammer	84
BP-32	2 lb. Ball Peen Hammer	84
BP-48	3 lb. Ball Peen Hammer	84
CDS-10	Tinners Snips	130
CK-6A	Fender Cover	128
CK-15A	Seat Cover	128
CSA-12	Carbon Scraper	96
CT-4B	Circuit Tester	95
DHP-8A	G. M. Door Handle Tool	130
FB-301	Wire Spark Plug Gauge	58
FB-308	Step Feeler Gauge	58
FB-325	General Use Feeler Gauge	58
GA-51A	16 1/2" Inspection Mirror	124
GA-73B	Brake Pedal Jack	90
GA-98	Adjustable File Handle	128
GA-265	15" Flexible Gripping Tool	124
GCP-10	Grease Cap Plier	92
HB-5	Ignition Point File	93
HCP-48BP	Hose Clamp Plier	96
HS-12	Hack Saw Frame	59
IMB-80	Impact Universal Joint	56
KRA-415	Rack for MT-402A & MT-415B	146
MT-104	Distributor Point Gauge	93

Stock Number	Description	See Page
MT-702	Alternator-Regulator Tester	146
MT-715	Tack-Dwell Meter	146
PF-23	1/4" Tip Impact Screw Driver	37
PF-25A	5/16" Tip Impact Screw Driver	37
PF-31A	3/8" Tip Impact Screw Driver	37
PF-100	5/16" Impact Hex Socket	56
PF-120	3/8" Impact Hex Socket	56
PF-140	7/16" Impact Hex Socket	56
PF-160	1/2" Impact Hex Socket	56
PF-180	9/16" Impact Hex Socket	56
PF-200	5/8" Impact Hex Socket	56
PIT-12	Impak Driver	39
PJ-10	Lock-ring Plier	84
PS-6	5" Impact Extension Bar	56
PSP-32A	No. 3 Impact Phillips Driver	56
PSP-42A	No. 4 Impact Phillips Driver	56
PSW-284A	7/16" Tip Impact Screw Driver	56
PSW-325A	1/2" Tip Impact Screw Driver	56
PT-7	6" Magnetic Pick-up Tool	124
PT-28	27" Magnetic Pick-up Tool	124
R-115C	Soldering Iron	100
S-9523	Chevy Brake Adjusting Tool	91
S-9478B	Chrysler Door Handle Tool	130
SSD-145	Spark Testing Screw Driver	78
SSDP-102	Long No. 2 Phillips Driver	77
ST-012A	1 & 2 Phillips Offset Driver	79
ST-034A	3 & 4 Phillips Offset Driver	79
TK-50	Dist.-Regulator Tool Kit	93
TQ-12B	Torqometer, 0-150 Inch Pound	27
TQ-150	Torqometer, 0-150 Foot Pound	27
TQ-250	Torqometer, 0-250 Foot Pound	27
V-22	Overhead Valve Adjusting Tool	124
KRA-59A	Large Tool Chest	13
KTA-3	Tool Tote Tray	13
KRA-429	Drawer Section	12
KRA-352A	Roll-Cab	12

fatten up your PAY-CHECK *with time saving tools like these!*



Snap-on® 5110F-GS-B

MECHANICS GENERAL PURPOSE SET

110 Tools Mechanics Use Most Often Complete With a Fine Tool Chest

THOUSANDS OF MECHANICS HAVE BOUGHT THIS POPULAR SET . . . THERE'S A REASON

That's right! Mechanics started grabbing up this set as soon as it was introduced . . . thousands within a few weeks. Here's why.

First, it's practical. SNAP-ON checked its records to find which tools mechanics buy most often. These are included in this set — tools like ½ and ⅜ in. drive sockets and handles, combination wrenches, ignition wrenches, screwdrivers, chisels, punches and more.

Second, SNAP-ON is a name a mechanic trusts. He knows that with these really great tools he beats the flat rates, makes more money and pays less for tools in the long run. SNAP-ON tools are giving faithful service long after the cheap ones hit the scrap.

Third, many mechanics bought the set for a little down, a little each week. So can you. Treat yourself to a gift that pays for itself while you're using it.

5110F-GS-B Mechanics' General Purpose Set. Contains all tools listed below, in KRA-53 Tool Chest (Page 11).

5110F-GS Set. Above set without the tool chest.

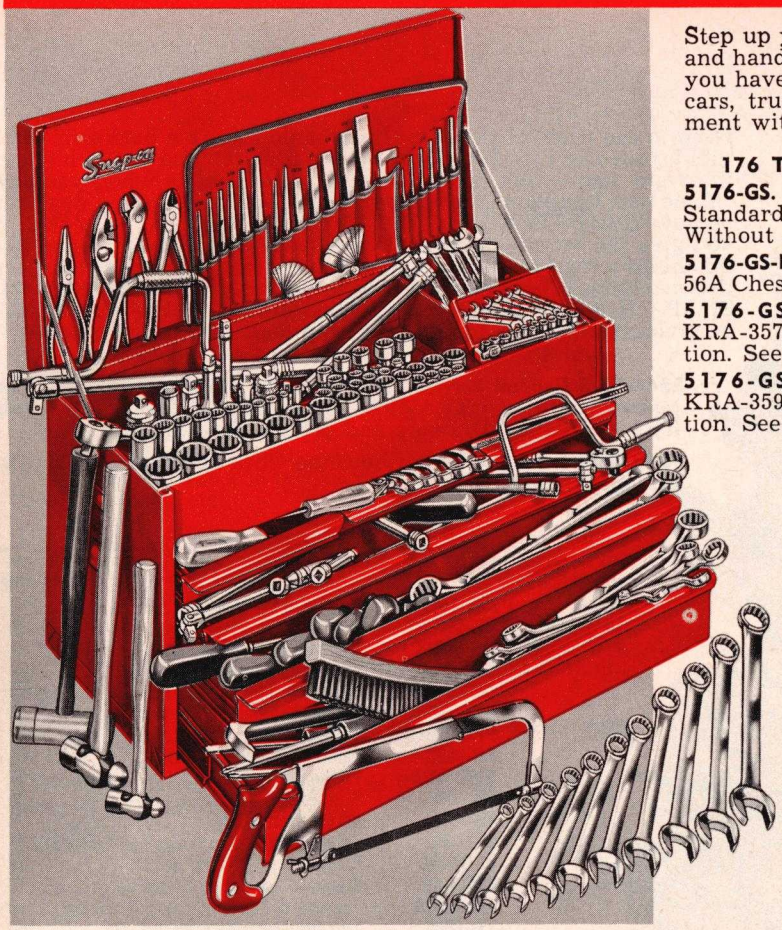


Stock Number	Description	See Page
211-SFS	Deep Ferret Socket Set	27
219-FP	Ferret Set	29
312B-SW	Master Double Hex Socket Set	33
2011-IT-K	Ignition Tune-up Kit	61
OEXS-709	Short Combination Wrench Set	65
OEX-711	Long Combination Wrench Set	65
87	Diagonal Cutter Plier	70
90A	Heavy Duty Gripping Plier	69
BH-92	Plastic Tip Hammer	75
96	Needle Nose Plier	71
BP-12	12 ounce Ball Peen Hammer	75
CSA-12	Carbon Scraper	93
FB-301	Wire Gap Gauge	54
FB-325	Feeler Gauge	54
FU-12A	Ferret Flexocket	26
FU-14A	Ferret Flexocket	26
FU-16A	Ferret Flexocket	26
FU-18A	Ferret Flexocket	26
FU-20A	Ferret Flexocket	26

Stock Number	Description	See Page
FU-24A	Ferret Flexocket	26
HS-8	Hack Saw Frame	94
L-710	Master Ratchet	30
PPC-816	Chisel 7/16" edge	66
PPC-824	Chisel 5/8" edge	66
PPC-104	Pin Punch 1/8" point	66
PPC-106	Pin Punch 3/16" point	66
PPC-110	Pin Punch 5/16" point	66
PPC-204	Starter Punch 1/8" point	66
PPC-206	Starter Punch 3/16" point	66
PPC-210	Starter Punch 5/16" point	66
PPC-4	Center Punch	66

Stock Number	Description	See Page
S-9704D	Spark Plug Socket	88
SN-18A	Master Nut Spinner	31
SSD-1	Screwdriver ¼" tip, 1½" blade	72
SSD-2	Screwdriver 3/16" tip, 2½" blade	72
SSD-4	Screwdriver ¼" tip, 4" blade	72
SSD-6	Screwdriver 5/16" tip, 6" blade	72
SSD-8	Screwdriver ⅜" tip, 8" blade	72
SSDP-22	Phillips No. 2 Screwdriver (1½")	73
SSDP-31	Phillips No. 1 Screwdriver (3")	73
SSDP-42	Phillips No. 2 Screwdriver (4")	73
SX-5	Master 5" Ext. Bar	31
SX-10	Master 10" Ext. Bar	31

Snap-on 5176-GS-B STANDARD SERVICE SET—176 TOOLS



Step up your earning power with this fine selection of wrenches and hand tools. You'll get more jobs completed in less time when you have the right tool ready for use when you need it. Service cars, trucks, tractors, power mowers, all kinds of farm equipment with this big set. It's a repair shop in a box.

176 Tools in Set

5176-GS. Mechanic's Standard Service Set. Without chest.

5176-GS-B Set. In KRA-56A Chest. See page 13.

5176-GS-BA Set. In KRA-357A Combination. See page 13.

5176-GS-BB Set. In KRA-359A Combination. See page 13.

Stock Number	Description	See Page
113-TM-B	Midget Wrench Set	31
250-F	Ferret Wrench Set	38
325-M	Master Wrench Set	44
DS-806	Ignition Wrench Set	69
OEX-711	Combination Wrench Set	73
PPC-200-K	Chisel and Punch Set	75
SSDP-50	Phillips Screw Driver Set	77
SSDS-50	Std. Screw Driver Set	76
VSO-806	Open End Wrench Set	71
XV-608	Offset Boxocket Set	62
XS-607	Dwarf Boxocket Set	63
47	Gripping Plier	81
50C	Midget Gripping Plier	81
87	Diagonal Cutter	82
BH-92	1 lb. Plastic Tip Hammer	84
196	Needle Nose Plier	83
208A	Battery Plier	81
1650	Pry Bar	75
AC-58B	Wire Brush	96
BP-4	4 oz. Ball Peen Hammer	84
BP-12	12 oz. Ball Peen Hammer	84
CS-1	Carbon Scraper	96
CT-6	Circuit and Spark Tester	95
FB-301	Wire Spark Plug Gauge	58
FB-326	Feeler Gauge	58
SS-5	Screw Starter	79
HS-8	Hack Saw Frame	59
PT-28	Magnetic Pick-up Tool	124
R-1618	Ratcheting Boxocket	65
S-9704D	Spark Plug Socket	94
SSD-145	Spark Test Screw Driver	78

Snap-on NUT TURNING SET 5184-GS-B 184 WRENCHES

HANDLES EVERY TYPE OF NUT TURNING JOB

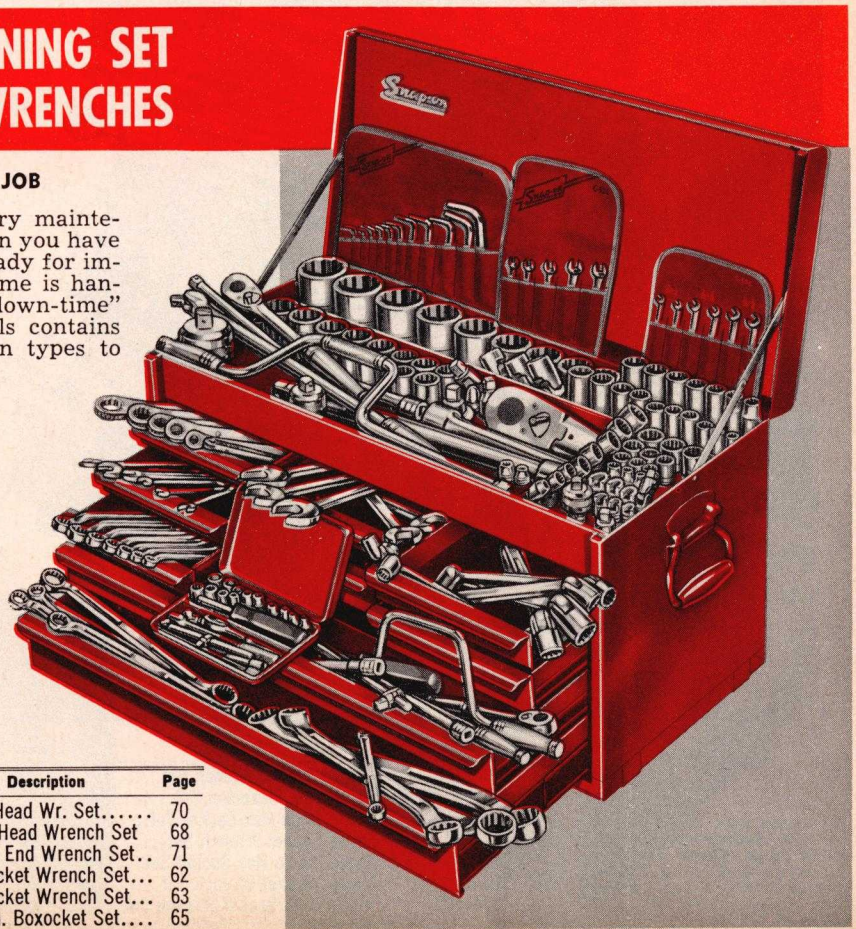
Ever think of this — that almost every machinery maintenance job starts and ends with wrench work? When you have the right kind and size of wrench for every job ready for immediate use, machinery repair and adjustment time is handled more safely, speedily, easily, with costly "down-time" held to a minimum. This assortment of 184 tools contains every standard wrench size from 3/16" to 1 7/8" in types to handle every nut turning situation. The socket wrenches are segregated into four groups having 1/4", 3/8", 1/2", and 3/4" square drive. The 5184-GS-B set also includes the very popular KRA-58C SNAP-ON tool chest shown at right. (See page 12 for complete description of this large, ruggedly built tool chest.)

5184-GS Maintenance Nut Turning Set. Without chest.

5184-GS-B Set. In KRA-58C Chest. See page 12.

5184-GS-BA Set. In KRA-362B Combination. See page 12.

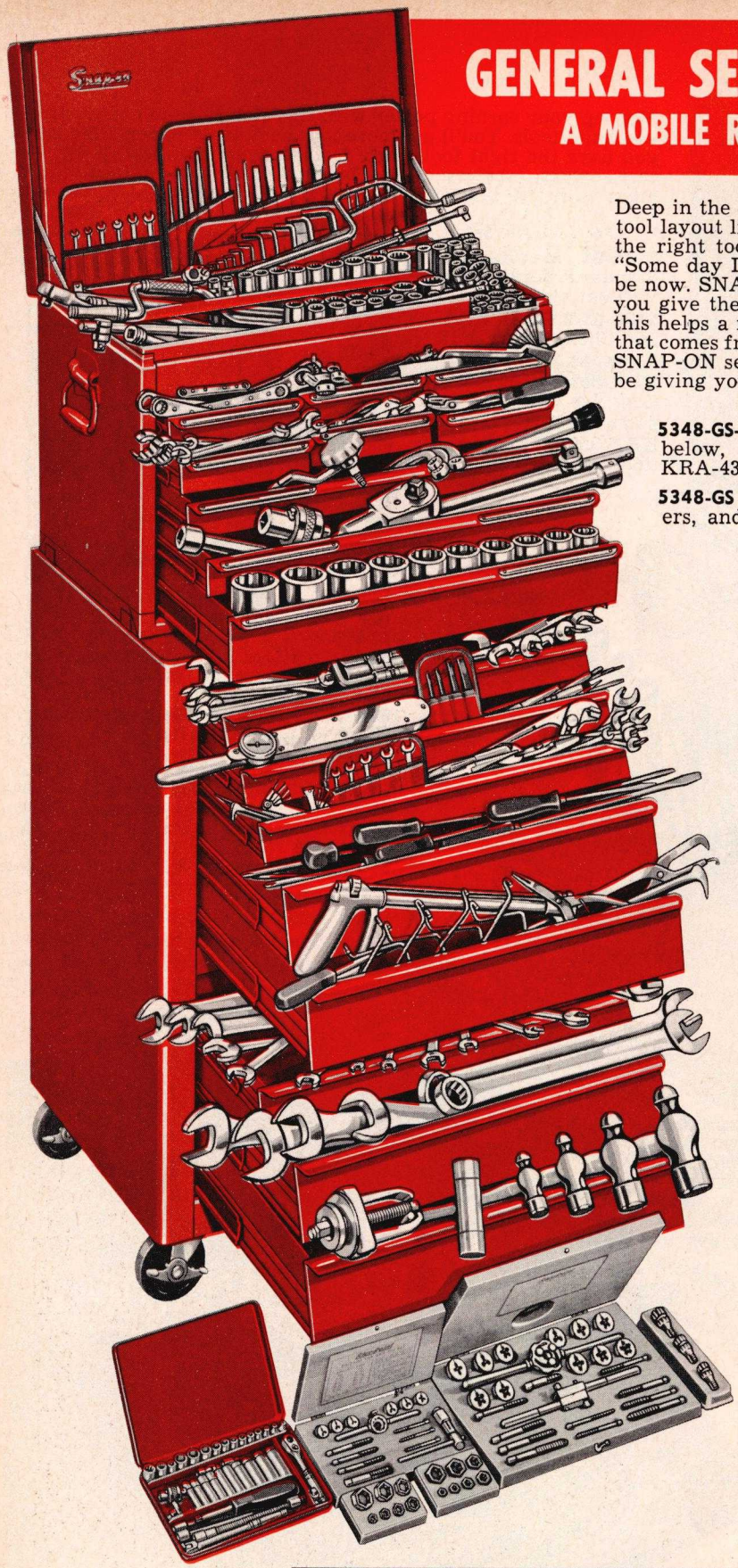
5184-GS-BB Set. In KRA-360B Combination. See page 13.



Stock No.	Description	Page	Stock No.	Description	Page
120-TM-B	Midget Set	31	AW-1013-K	Hex Head Wr. Set	70
250-F	Ferret Set	38	FH-607B	Flex-Head Wrench Set	68
336-M	Master Set	45	VSO-811	Open End Wrench Set	71
414A-HD	Heavy Duty Set	48	XV-608	Boxocket Wrench Set	62
DS-806K	Ignition Wrench Set	69	XS-607	Boxocket Wrench Set	63
OXI-705K	Comb. Wr. Set	73	RB-606S	Ratch. Boxocket Set	65

GENERAL SERVICE SET 5348-GS-B

A MOBILE REPAIR SHOP—348 TOOLS



Deep in the heart of every real mechanic there's a hankerin' for a tool layout like this. When you have a rush job and you don't have the right tool — that is when it hits you. That is when you say, "Some day I'm gonna have a box full." Well, that "some day" can be now. SNAP-ON will roll this outfit into your shop — as soon as you give the word — and arrange easy payment terms. A set like this helps a man make money by putting into his hands the speed that comes from both tool selection and quality. You get both in this SNAP-ON set. SNAP-ON tools fit better and feel better, they will be giving you service long after cheap tools hit the scrap heap.

5348-GS-B General Service Set. Complete selection of tools listed below, with our KRA-59A Chest, KRA-377A Coaster-Cab, KRA-433 Set of Drawers and KTA-3 Tote Tray.

5348-GS Set. Above set without the Chest, Coaster-Cab, Drawers, and Tote-Tray.

Stock Number	Description	See Page
136-TMB	Midget Socket Wrench Set	30
209-FU	Ferret Hex Flexocket Set	37
211-SF	Ferret Deep Hex Socket Set	37
219-FP	Ferret Socket Wrench Set	39
311A-S	Master Deep Hex Socket Set	43
325-M	Master Socket Wrench Set	44
414A-HD	Heavy Duty Socket Wrench Set	48

Stock Number	Description	See Page
AW-1013-K	Hex Head Wrench Set	70
CX-605	Half Moon Boxocket Set	65
DS-806-K	Ignition Wrench Set	69
OEX-719	Long Combination Wrench Set	73
OEXS-709	Short Combination Wrench Set	73
OXI-705-K	Midget Combination Wrench Set	73
PPC-200-K	Chisel and Punch Set	75
RB-606S	Ratcheting Boxocket Set	65
RXH-607S	Flarenut Wrench Set	66
SR-40K	Stud Extractor Set	50
SS-30N	Screw Starter Set	79
SCD-30	Cabinet Screw Driver Set	78
SSDP-50	Phillips Screw Driver Set	77
SSDS-50	Standard Tip Screw Driver Set	76
TD-2400A	Tap and Die Set—¼" to ½"	60
TD-2500	Tap and Die Set—4-36 to 12-24	60
TDC-3	Thread Chaser Set	61
TRC-7A	Rethreader Set, N.C. ¼" to ⅝"	61
TRF-7A	Rethreader Set, N.F. ¼" to ⅝"	61
VS-809	Angle Head Open End Wrench Set	70
XS-607	Dwarf Boxocket Set	63
45	5½" Gripping Plier	81
47	7½" Gripping Plier	81
60R	7¾" Duck-Bill Plier	84
70A	Lock Ring Plier	84
87	7¼" Diagonal Cutter	82
90	9¼" Interlocking Gripping Plier	81
BH-92	1 Lb. Plastic Tip Hammer	84
94	4½" Needle Nose Plier	83
96	7" Needle Nose Plier	83
105	5" Ignition Plier	81
131A	Brake Spring Plier	84
184	4¼" Diagonal Cutter	82
208A	7¾" Battery Plier	81
650	6" Roll-Head Pry Bar	75
1650	16" Roll-Head Pry Bar	75
B-1356A	Brake Shoe Spring Compressor	90
B-1461	Brake Adjusting Tool	91
B-1462	Brake Adjusting Tool	91
BL-41A	Brake Cylinder Clamp Set	90
BP-8	½ Lb. Ball Peen Hammer	84
PB-16	1 Lb. Ball Peen Hammer	84
BP-32	2 Lb. Ball Peen Hammer	84
BP-48	3 Lb. Ball Peen Hammer	84
CG-250	2-Jaw Screw-Type Gear Puller	118
CT-6	Circuit-Spark Tester	95
FB-301	Spark Plug Wire Gauge	58
FB-326	Feeler and Ignition Gauge	58
GA-73B	Brake Bleeder Jack	90
HS-12	Deluxe Hacksaw Frame	59
RC-40C	Piston Ring Compressor	98
RC-500	Piston Ring Groove Cleaner	98
CP-3A	Cotter Pin Tool	75
S-6404A	Brake Spring Tool	90
S-8353B	Brake Adjusting Tool	91
SSD-153	Screw Driver	78
SSD-422A	Screw Driver, 22" blade, 5/16" tip	77
TQ-150	150 Ft. Lb. Capacity Torqometer	27
V-22	Valve Adjusting Tool	124

See pages nine and thirteen for full descriptions of the extra large Chest and the Coaster-Cab with extra drawer section shown above. This rugged outfit will give years of satisfactory service.

it's a PAY CHECK stepper-upper!

5237-GS-BB

GENERAL PURPOSE SET ON WHEELS

237 TIME SAVING TOOLS IN YOUR OWN ROLLING WORKSHOP

Here is the set you need to put your skill and mechanical know-how into a higher earning level. Every minute you spend using make-shift tools or trudging back and forth from the job to your tool container whittles away at your earning power.

Each tool in this set will find regular use in day to day service and repair work. The set is an excellent choice for any mechanic who services factory machines, gas or diesel engines, cars and trucks, material handling equipment, aircraft, etc.

The Chest and Drawer Section and Roll-Cab are three of the most popular tool storage units we have ever offered. Each unit is designed to fit perfectly with the others and give you an outfit second to none. A raised rim around the Roll-Cab top and corner retainers on the Drawer Section hold the three units in place. For complete descriptions see pages 12–13. Overall height closed is 52 inches.

5237-GS-BB Set. All tools listed below, in KRA-360B Combination as illustrated.

5237-GS-BA Set. All tools listed, in KRA-362B Combination. (Chest and Roll-Cab only.)

5237-GS Set. All tools listed below.

Stock Number	Description	See Page
120-TM-B	Midget Socket Wrench Set	31
250-F	Ferret Socket Wrench Set	38
336-M	Master Socket Wrench Set	45
2011-IT-K	Tune-up Kit	69
AW-1013-K	Hex Head Wrench Set	70
CX-605	Half Moon Boxocket Set	65
OEX-714	Combination Wrench Set	73
OXI-705	Midget Combination Wrench Set	73
PPC-200-K	Chisel and Punch Set	75
PL-70B	Set of Seven Pliers	81
RB-606S	Ratcheting Boxocket Set	65
SCD-30	Cabinet Screw Driver Set	78
SSD-145	Spark Test Screw Driver	78
SSDP-50	Phillips Screw Driver Set	77
SSDS-50	Std. Tip Screw Driver Set	76
XS-607	Dwarf Boxocket Set	63
BH-92	1 lb. Plastic Tip Hammer	84
131A	Brake Spring Plier	90
1650	Pry Bar	75
AC-58B	Wire Brush	96
B-1356A	Brake Shoe Spring Compressor	90
B-1458	Brake Bleeding Wrench	91
B-1461	Brake Adjusting Tool	91
B-1462	Brake Adjusting Tool	91
B-1463	Brake Bleeding Wrench	91
BL-41A	Set of 4 Brake Cyl. Clamps	90
BP-4	4 oz. Ball Peen Hammer	84
BP-12	12 oz. Ball Peen Hammer	84
BP-32	2 lb. Ball Peen Hammer	84
CD-12	Tinners Snips	130
CS-1	Carbon Scraper	96
CT-4B	Electric Circuit Tester	95
FB-301	Spark Plug Gauge	58
FB-310	Feeler Gauge	58
GA-508	8 ft. Steel Tape Rule	59
HS-8	Hack Saw Frame	59
HS-13	Jab Saw	59
R-115C	Soldering Gun	100
RC-500	Piston Ring Groove Cleaner	98
RC-40C	Piston Ring Compressor	98
S-9523	Chevrolet Brake Adj. Tool	91
TQ-150	Torqometer	27
V-22	Valve Adjusting Tool	124



FOR BODY REPAIR MECHANICS
Snap-on 2182-BR-B SET

Number	Description	Page
136-TM-B	Midget Wrench Set	30
211-SFS	Deep Hex Socket Set	37
219-FP	Ferret Wrench Set	39
325-M	Master Wrench Set	44
AW-1015KC	Hex Head Wrench Set	70
OEXS-709	Combination Wrench Set	73
PPC-200-K	Chisel & Punch Set	75
RB-606S	Ratcheting Boxocket Set	65
SSDP-50	Phillips Screw Driver Set	77
SSDS-50	Std. Screw Driver Set	76
XV-605	Boxocket Set	62
No. 17	7¼" End Cutter	82
No. 47	7½" Gripping Plier	81
No. 87	7¼" Diagonal Cutter	82
No 1650	Pry Bar	75
A-159	Door Handle Tool	130
BF-708C	Panel Cutter	130
BP-16	1 lb. Ball Peen Hammer	84
BP-32	2 lb. Ball Peen Hammer	84
BP-48	3 lb. Ball Peen Hammer	84
FP-22A	No. 2 Phillips Bit Socket	37
FP-32A	No. 3 Phillips Bit Socket	37
FP-41B	No. 4 Phillips Bit Socket	37
F-29A	⅜" Clutch Bit Socket	37
F-30	19/64" Clutch Bit Socket	37
FIM-100	5/16" Self-Tap Screw Socket	56
FIM-120	⅜" Self-Tap Screw Socket	56
FIM-140	7/16" Self-Tap Screw Socket	56
FIM-160	½" Self-Tap Screw Socket	56
SS-5	Screw Starter	79
PPC-714	14" Long Taper Punch	75
PPC-820L	12" Long Flat Chisel	75
PK-121	⅜" Self-Tap Screw Socket	56
PK-141	7/16" Self-Tap Screw Socket	56
PK-161	½" Self-Tap Screw Socket	56

182 NEEDED TOOLS

In addition to the particular tools of his craft, the specialist in body repair work needs a wide variety of standard wrenches and tools. Here in one complete set is a time saving selection of those units which most "body" men need to do the work quickly, safely, profitably.



2182-BR-B Body Repair Set. In KRA-58C Tool Chest illustrated and described on page 12.
2182-BR Set. Above set, tools only.

Number	Description	Page
PK-181	9/16" Self-Tap Screw Socket	56
S-9478D	Door Handle Tool	130
SSD-18	18" H. D. Screw Driver	77
ST-012A	1 & 2 Phillips Offset Sc. Dr.	79
ST-034	3 & 4 Phillips Offset Sc. Dr.	79

See pages 128 to 132 for Specialized Body Repair Tools and equipment.

MECHANICS BASIC SERVICE TOOLS
Snap-on 5088-GS-B SET



The KRA-21 Mechanikit shown here is described on page 11.

88 MOST NEEDED SERVICE TOOLS

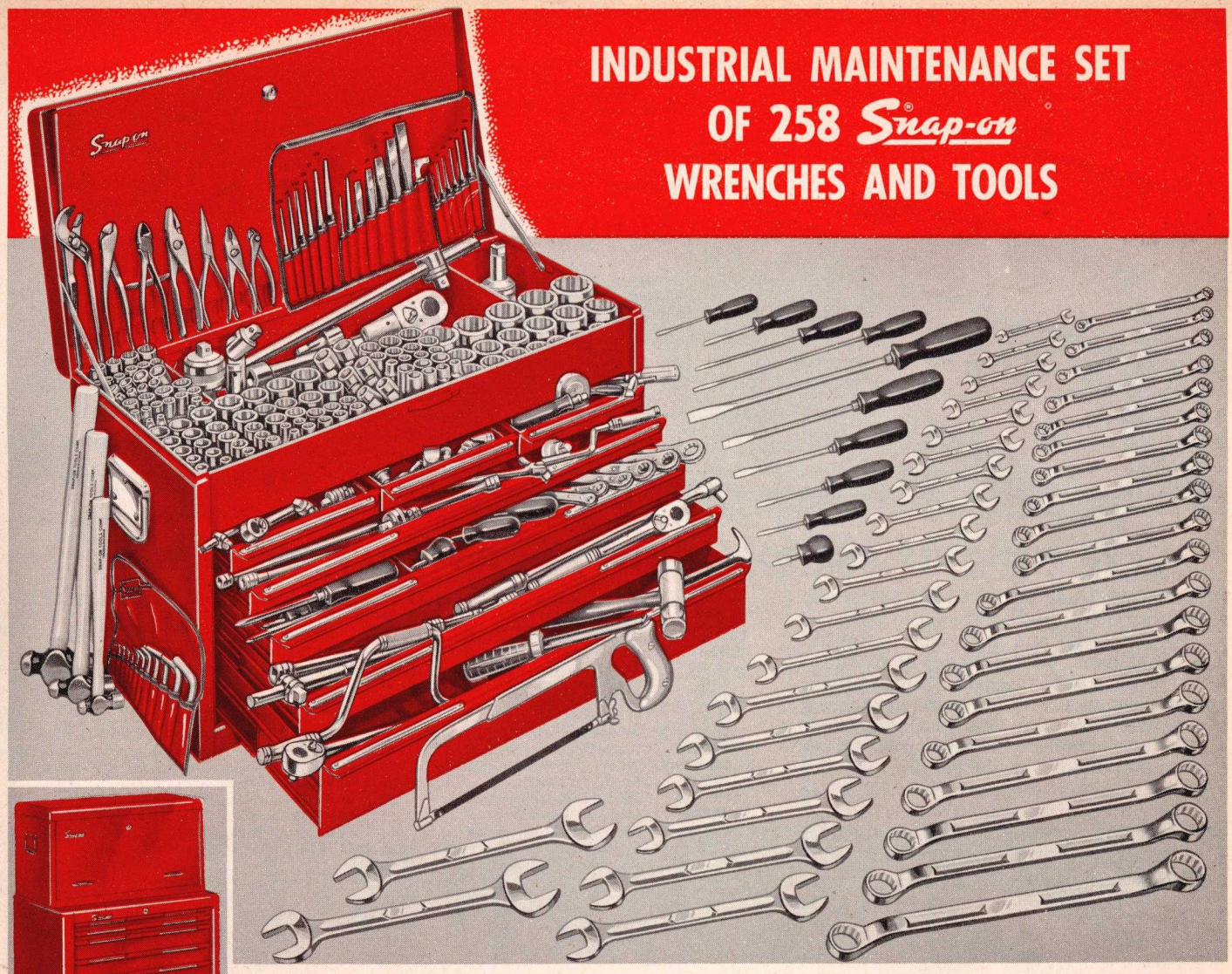
This set is a well balanced selection of tools especially suitable for the man starting to build up his kit. It provides a basic set of Ferret ⅜" square drive and Master ½" square drive socket wrenches together with Boxocket and Combination wrenches and the most essential hand tools, a set to which other units can be added as the need arises.

5088-GS-B Mechanics Basic Tool Set. Complete with KRA-21 Mechanikit.
5088-GS Set. Above Set tools only.

Stock No.	Description	See Page
219-FP	Ferret Wrench Set	39
325-M	Master Wrench Set	44
OEX-711	Combination Wrench Set	73
XS-607	Boxocket Wrench Set	63
No. 47	7½" Gripping Plier	81
No. 87	7¼" Diagonal Cutter	82
No. 96	7⅛" Needle Nose Plier	83
BH-92	1 lb. Plastic Tip Hammer	84
BP-12	12 oz. Ball Peen Hammer	84
CS-1	Carbon Scraper	96
FB-301	Spark Plug Wire Gauge	58
FB-326	Feeler Gauge	58
HB-5	Ignition Point File	93
HS-8	Hack Saw Frame	59
PPC-4	Center Punch	74
PPC-104	⅛" Pin Punch	74
PPC-106	3/16" Drift Punch	74
PPC-110	5/16" Drift Punch	74
PPC-204	⅛" Starter Punch	74
PPC-206	3/16" Starter Punch	74
PPC-210	5/16" Starter Punch	74
PPC-816	½" Blade Chisel	74
PPC-824	¾" Blade Chisel	74
SSD-2	2½" Blade Screwdriver	76
SSD-4	6" Blade Screwdriver	76
SSD-8	8" Blade Screwdriver	76
SSDP-42	No. 2 Phillips Screwdriver	77
SSDP-64	No. 4 Phillips Screwdriver	77
SSD-145	Spark Test Screwdriver	78
S-9704D	Spark Plug Socket	94
KRA-21	Mechanikit	11

A GOOD STARTER SET FOR YOUNG MECHANICS

INDUSTRIAL MAINTENANCE SET OF 258 Snap-on WRENCHES AND TOOLS





KRA-361C COMBINATION Tremendous amount of storage space in this chest and Roll-Cab. Described in detail and shown in color on page 10.



KRA-300B ROLLA-BENCH Saves hours of a mechanic's time. You'll find it described and shown in color on page 8.

Snap-on 5262-GS-B INDUSTRIAL MAINTENANCE SET

A Time Saving Selection of the Wrenches and Hand Tools Frequently Needed for Repair Work on Machinery of All Types

The right tool . . . at the right place . . . at the right time — that is one of the biggest factors which can contribute to faster, more accurate machinery maintenance or repair. Here is a selection of wrenches and hand tools which provides every standard wrench size from ¼" up to 2" and wrench types to suit any given situation. Complete descriptions of the various groups and units comprising this set will be found on the pages listed at right.

Suitable Cabinets for This Set

The time saving way to operate is to use a "Rolla-Bench" or "Roll-Cab" which will transport the complete tool equipment from crib to job. It puts all the tools right where they are needed . . . eliminates time wasting "tool trips" and increases the efficiency of maintenance departments. Color illustrations and complete descriptions of SNAP-ON "Roll-Cabs," "Rolla-Benches," Tool Trucks and Tool Chests are found on pages 6 to 16.

5262-GS Industrial Maintenance Tool Set. Tools only.

5262-GS-B Maintenance Set. Complete as illustrated in the KRA-61B Super Chest.

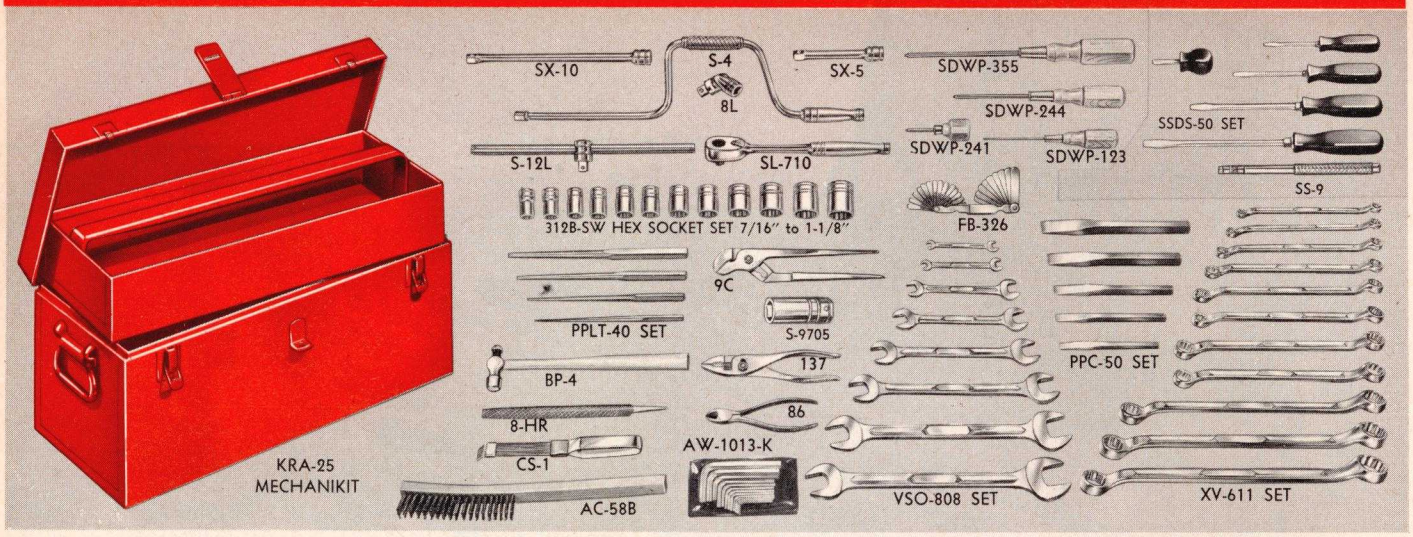
5262-GS-BA Maintenance Set. Complete in KRA-361C Super Chest and Roll-Cab Combination.

5262-GS-BB Maintenance Set. Complete in KRA-300B Rolla-Bench.

Contents of the 5262-GS Industrial Maintenance Set

Stock Number	Description	See Page
250-F	Ferret Socket Wrench Set	38
377A-M	Master Socket Wrench Set	44
425A-HD	Heavy Duty Socket Wrench Set	48
VSO-820	Open End Wrench Set	71
XV-619	Boxocket Wrench Set	62
RB-606S	Ratcheting Boxocket Set	65
AW-1013-K	Hex Head Wrench Set	70
SS-9	Screw Starter	79
SCD-30	Cabinet Screw Driver Set	78
SSD-12A	Screw Driver	76
SSD-145	Spark Test Screw Driver	78
SSD-234	Screw Driver	77
SSDS-50	Screw Driver Set	76
SSDP-50	Phillips Screw Driver Set	77
SSDP-64	Phillips Screw Driver	77
PPC-200-K	Chisel & Punch Set	75
PL-70B	Set of 7 Pliers, Nos. 9C, 50C, 47, 65, 87, 196, 208B	81
No. 1650	Pry or Jimmy Bar	75
BP-4	4 oz. Ball Peen Hammer	84
BP-12	12 oz. Ball Peen Hammer	84
BP-32	2 lb. Ball Peen Hammer	84
BH-92	1 lb. Plastic Tip Hammer	84
HS-13	Jab Saw	59
HS-8	Hack Saw	59
GA-524	12 ft. Steel Tape Rule	59

5078-GS-B POPULAR SERVICE SET



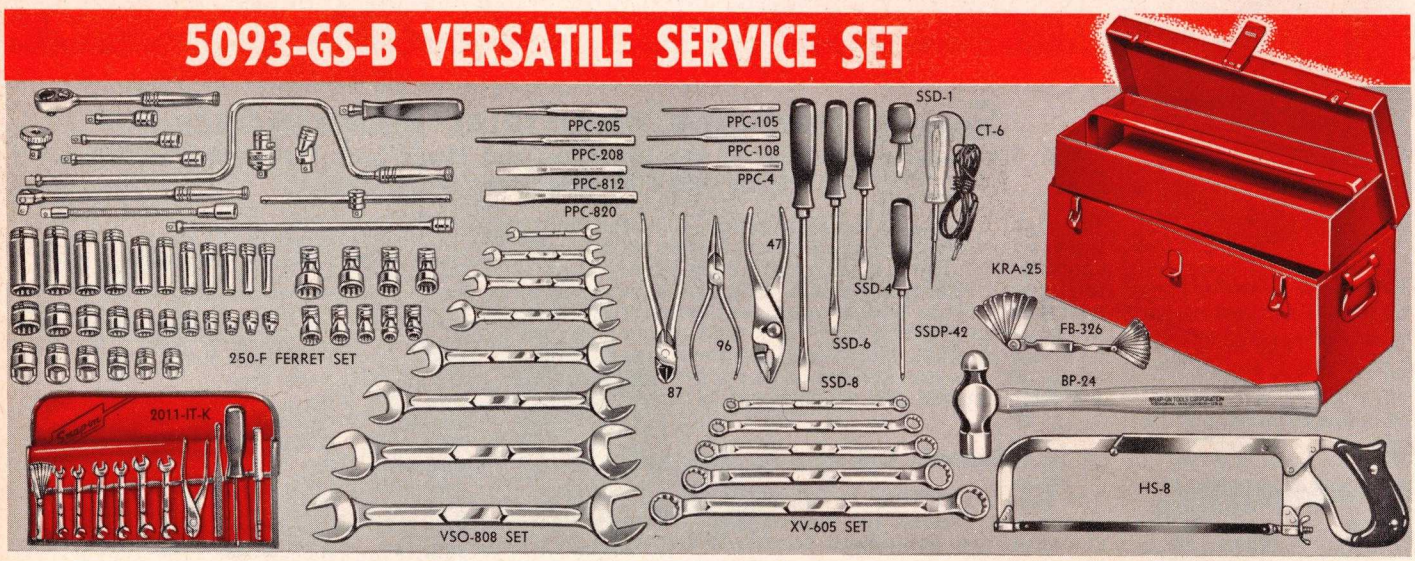
78 WRENCHES AND TOOLS NEEDED IN EVERY-DAY SERVICE WORK

5078-GS-B POPULAR SERVICE TOOL SET. Every service mechanic needs the basic tools included in this set and it provides an excellent assortment for the young man who is entering the mechanic trade. The ambitious man will set up a carefully planned program of tool purchases that will gradually build his tool kit to professional standards. All the sockets and handles in the set are half-inch square drive with a socket range of 3/8" to 15/16". Boxocket sizes range from 3/8" to 1 1/4" and Open Ends from 1/4" to 1 1/4". Set includes KRA-25 Mechanikit. (See page 16.)

5078-GS Set. Above set, tools only.

Stock No.	Description	See Page
S-8	Universal Joint	41
SL-710	Ratchet Wrench	40
S-12L	Sliding Bar Handle	41
S-4	Speeder Handle	41
SX-5	5" Extension Bar	41
SX-10	10" Extension Bar	41
312B-SW	Double Hex Socket Set	43
AW-1013-K	Set of 13 Hex Head Wrenches	70
PPC-50	Set of 5 Flat Chisels	75
PPLT-40	Set of 4 Long Tapered Punches	75
VSO-808	Open End Wrench Set	71
XV-611	Offset Boxocket Wrench Set	62
8-HR	8" Half Round File	128
9C	8 3/4" Gripping Plier	81
86	6" Diagonal Cutter	82
137	7 1/2" Combination Plier	81
AC-58B	Wire Brush	96
BP-4	4 Oz. Ball Peen Hammer	84
CS-1	Carbon Scraper	96
FB-326	Feeler and Ignition Gauge	58
S-9705	Spark Plug Socket	94
SDWP-241	Phillips Driver, #2 Bit—1 1/2" Blade	78
SDWP-123	Phillips Driver, #1 Bit—3 1/4" Blade	78
SDWP-244	Phillips Driver, #2 Bit—4" Blade	78
SDWP-355	Phillips Driver, #3 Bit—6" Blade	78
SS-9	Screw Starter	79
SSDS-50	Screw Driver Set	76

5093-GS-B VERSATILE SERVICE SET



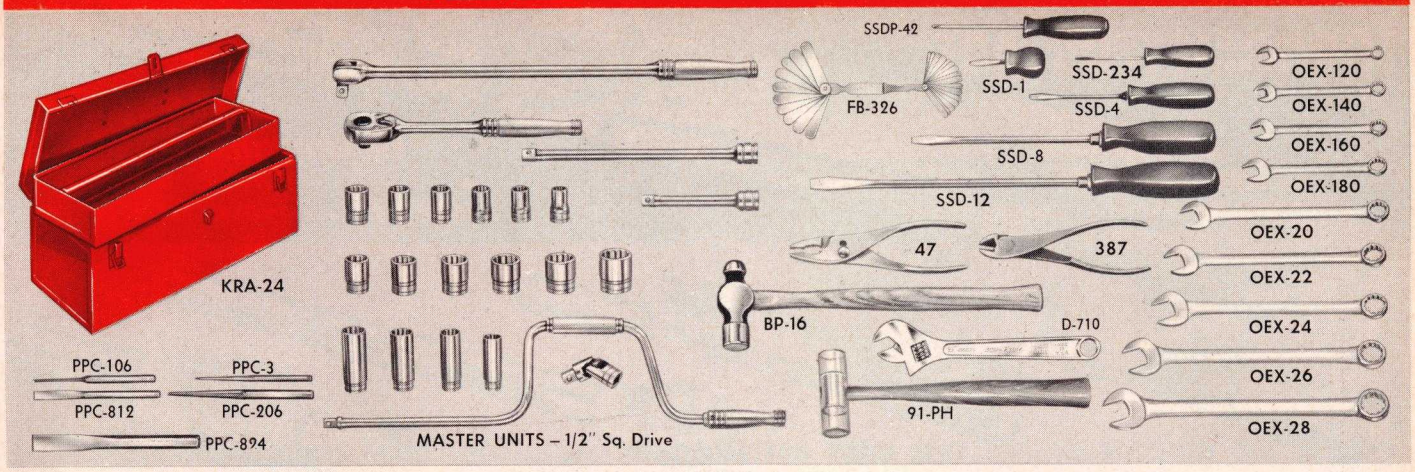
93 TOOLS EVERY MECHANIC NEEDS

5093-GS-B Versatile Service Tool Set. No two mechanics will choose exactly the same tool selection, but here is an assortment of the most essential tools for general service work that will give any mechanic a sound foundation to which can be added other tools as needed. Wrench sizes range from 3/8" hex to 7/8" in sockets, Boxockets and open-ends. A versatile selection of mechanic's hand tools and special tools for valve and brake work rounds out the set. Set is complete with the KRA-25 Mechanikit described on page 16.

5093-GS Set. Above set, tools only.

Stock No.	Description	See Page
2011-IT-K	Tune-up Set	69
250-F	Ferret Set	38
VSO-808	Open End Wrench Set	71
XV-605	Boxocket Set	62
47	7 1/2" Gripping Plier	81
87	7 1/4" Diagonal Cutter	82
96	7 1/8" Needle Nose Plier	83
BP-24	1 1/2 lb. Ball Peen Hammer	84
CT-6	Circuit-Spark Tester	95
FB-326	Feeler Gauge	58
HS-8	Hack Saw Frame	59
PPC-4	Center Punch	74
PPC-105	5/32" Pin Punch	74
PPC-108	1/4" Pin Punch	74
PPC-205	5/32" Starter Punch	74
PPC-208	1/4" Starter Punch	74
PPC-812	13/32" Edge Chisel	74
PPC-820	5/8" Edge Chisel	74
SSD-1	Screwdriver, 1 1/2" Blade	76
SSD-4	Screwdriver, 4" Blade	76
SSD-6	Screwdriver, 6" Blade	76
SSD-8	Screwdriver, 8" Blade	76
SSDP-42	No. 2 Phillips Driver	77

5048-GS-B Snap-on APPRENTICE TOOL SET— 48 Tools



CONTAINS 48 POPULAR TOOLS

5048-GS-B Apprentice Tool Set. A set of ½" square drive socket wrenches and mechanic's basic service tools, especially selected so that you can add additional units as your earnings increase until you have built up a complete automotive technician's set. This set will enable you to perform a great many service and repair operations speedily and efficiently — with a very low initial investment in fine quality tools. Complete in the KRA-24 Mechanikit. (See page 16.)

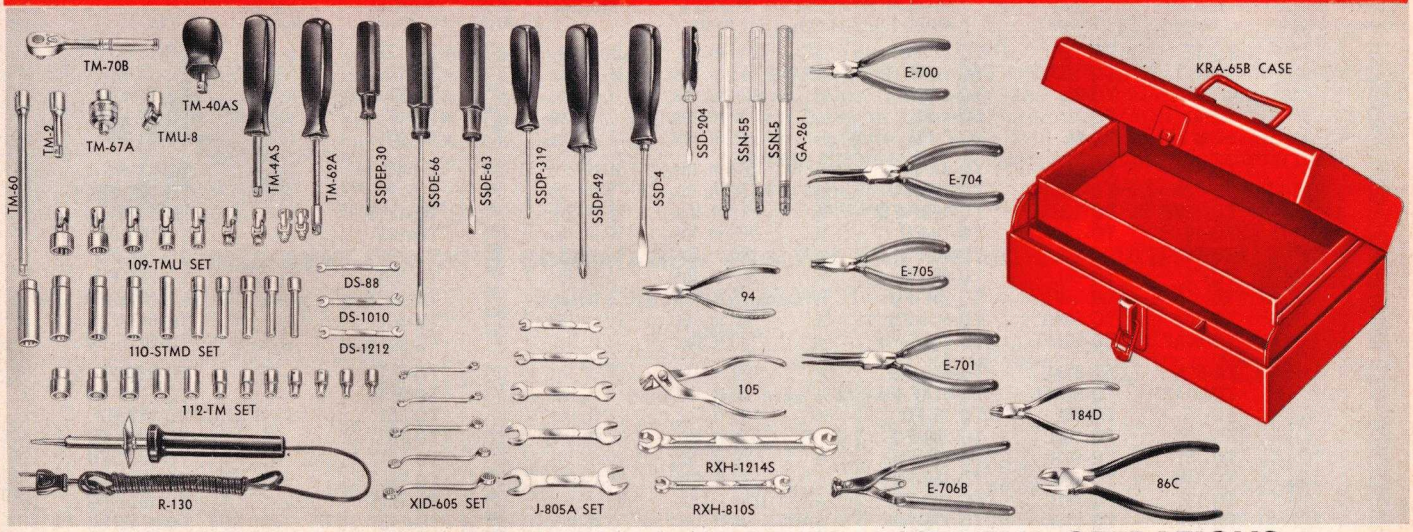
5048-GS Set. Tools only.

Stock No.	Description	See Page
SL-710	Ratchet Wrench....	40
S-4	Speeder—19½"...	41
SN-18M	Nut Spinner—18"	41
SX-5	5" Extension Bar...	41
SX-10	10" Extension Bar	41
S-8	Universal Joint....	41
312B-SW	Dbl. Hex Socket Set 7/16" to 1¼"...	43
S-201	⅝" Deep Sock.....	42
S-221	11/16" Deep Sock...	42
S-241	¾" Deep Sock.....	42
S-261	13/16" Deep Sock...	42
D-710	Adj. Wrench.....	67

Stock No.	Description	See Page
OEX-120	⅜" Comb. Wr.....	72
OEX-140	7/16" Comb. Wr....	72
OEX-160	½" Comb. Wr.....	72
OEX-180	9/16" Comb. Wr....	72
OEX-20	⅝" Comb. Wr.....	72
OEX-22	11/16" Comb. Wr...	72
OEX-24	¾" Comb. Wr.....	72
OEX-26	13/16" Comb. Wr...	72
OEX-28	⅞" Comb. Wr.....	72
SSD-1	1½" Sc. Driver...	76
SSD-4	4" Screw Driver..	76
SSD-8	8" Screw Driver...	76
SSD-12	12" Screw Driver	76

Stock No.	Description	See Page
SSD-234	⅛" Tip. Sc. Dr.....	77
SSDP-42	No. 2 Phillips.....	77
PPC-812	⅜" Blade Chisel...	74
PPC-824	⅝" Blade Chisel...	74
PPC-206	3/16" Starter Pun..	74
PPC-106	3/16" Pin Punch....	74
PPC-3	Center Punch.....	74
BP-16	1 lb. B-Peen Ham..	84
91-PH	8 oz. Sof-tip Ham.	84
FB-326	Feeler Gauge.....	58
47	Gripping Plier.....	81
387	Diagonal Cutter....	82
KRA-24	Mechanikit.....	16

5075-ET-B BASIC ASSEMBLY MIDGET TOOL SET



75 TIME SAVING TOOLS FOR MINIATURE ASSEMBLY OPERATIONS

5075-ET-B Basic Assembly Midget Set. Recommended for production assembly of all types of electronic and electrical instruments and for the maintenance and adjustment of such equipment. The tiny wrenches are machined to close tolerance specifications to provide access to fastenings in closely fitted assemblies. Smooth, well-shaped and balanced handles put added efficiency into the hands of assembly line operators. Screwdrivers have tips the same width as the diameter of the thin blades so that they can follow into screw holes. The eighteen-watt, pencil-type soldering iron maintains a constant 850 degree F. tip temperature for work on tiny assemblies or on printed circuits. Set includes the KRA-65B Tool Case described on page 11.

5075-ET Set. Above set without the tool case.

Stock No.	Description	See Page
TM-2	2" Extension Bar.....	32
TM-4AS	Plastic Grip Handle, 2" Shank.....	32
TM-40AS	Plastic Grip Handle, ⅜" Shank.....	32
TM-60	6" Extension Bar.....	32
TM-62A	Flexible Drive Handle.....	32
TM-67A	Ratchet Adaptor.....	32
TM-70B	Ratchet Wrench.....	32
TMS-70	Ratchet Spinner.....	32
TMU-8	Universal Joint.....	32
109-TMU	Set — nine Hex Flexockets.....	33
110-STMD	Set — ten Deep Hex Sockets.....	33
112-TM	Set — twelve Hex Sockets.....	33
86C	6⅛" Diagonal Cutter Plier.....	82

Stock No.	Description	See Page
94	4½" Needle Nose Plier.....	83
105	5" Gripping Plier, adj. slip-joint.....	81
184D	4¼" Semi-flush Cutter Plier.....	80
SSD-204	Screwdriver, 1/8" tip — 2" blade.....	78
E-700	Wire Looper Plier.....	80
E-701	6½" Needle Nose Plier.....	80
E-704	6 13/32" Bent Needle Nose Plier.....	80
E-705	4½" End Cutter, 1/8" wide tip.....	80
E-706B	6⅛" Flush Cutting End Nipper.....	80
DS-88	1/8" Open End Wrench.....	69
DS-1010	5/32" Open End Wrench.....	69
DS-1212	3/16" Open End Wrench.....	69
GA-12N	Screw Starter.....	79

Stock No.	Description	See Page
GA-233	Screw Starter.....	79
GA-261	Phillips Screw Starter.....	79
J-805A	Set — 5 Short Open End Wrenches.....	69
R-130	Pencil-Type Soldering Iron.....	100
SSDE-63	Screwdriver, 3/16" Tip — 3" Blade.....	78
SSDE-66	Screwdriver, 3/16" Tip — 6" Blade.....	78
SSDEP-30	Phillips Screwdriver, No. 0 Bit, 3" Blade	77
SSD-4	Screwdriver, ¼" Tip — 4" Blade.....	76
SSDP-319	Phillips driver, No. 1 Bit, 3¼" Blade.....	77
SSDP-42	Phillips Screwdriver, No. 2 Bit, 4" Blade.	77
RXH-810S	¼" x 5/16" Flare Nut Wrench.....	66
RXH-1214S	⅜" x 7/16" Flare Nut Wrench.....	66
XID-605	Set — 5 Midget Boxockets.....	63



THE IMPORTANCE OF USING A TORQOMETER

It is recognized throughout industry that the only correct way to tighten threaded fasteners is by applying an exact specified torque. It is physically impossible for any mechanic to tighten a series of bolts to an equalized predetermined tension with ordinary wrenches. This makes the man using a SNAP-ON Torqometer an important factor in the proper assembly of modern engines and machinery and in its safe and efficient operation.

▲ MODELS AVAILABLE WITH ENGLISH CALIBRATION DIALS

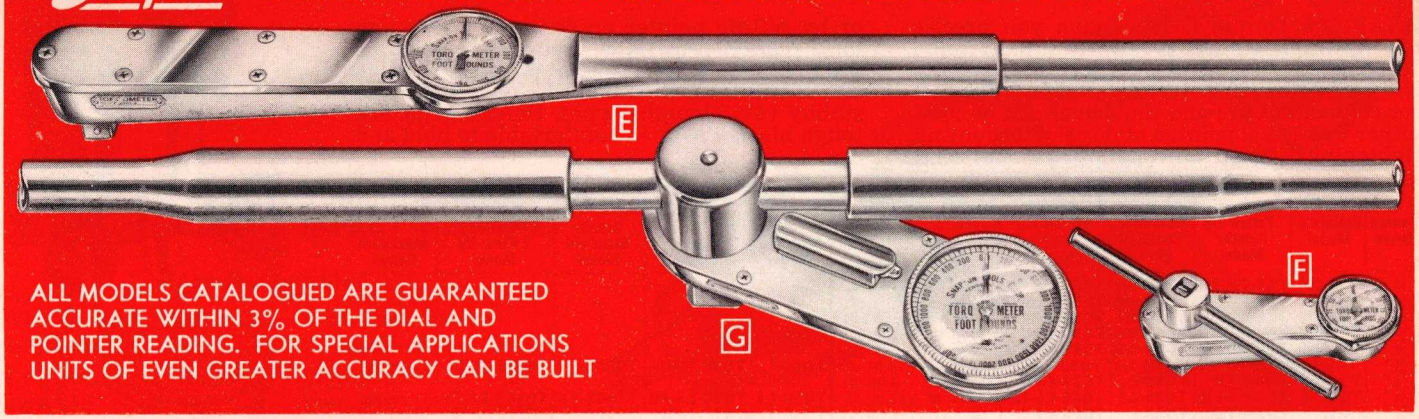
IN-LINE HANDLE MODELS — Types A B C D and E					SQUARE DRIVE & CAPACITY			"T" HANDLE MODELS — Type F and G				
						Dial Calibration						
Model Type	* Overall Length	Standard Model	Indicator Light Model	Follow-Up Pointer Model	Square Drive	Maximum Range	Divisions	Model Type	Standard "T" Model	Indicator Light Model	Follow-Up Pointer Model	Handle Length
A	9″	TQ-1Z	TQ-1ZL	TQ-1Z-FU	¼″	240 in. oz.	10 in. oz.	F	•TQ-1ZT	—	•TQ-1ZT-FU	9″
A	9″	TQ-1	TQ-1L	TQ-1-FU	¼″	15 in. lbs.	½ in. lbs.	F	•TQ-1T	—	•TQ-1T-FU	9″
A	9″	TQ-3	TQ-3L	TQ-3-FU	¼″	30 in. lbs.	1 in. lbs.	F	•TQ-3T	—	•TQ-3T-FU	9″
A	9″	TQ-4	TQ-4L	TQ-4-FU	¼″	50 in. lbs.	2 in. lbs.	F	•TQ-4T	—	•TQ-4T-FU	9″
A	9″	TQ-6	TQ-6L	TQ-6-FU	¼″	75 in. lbs.	1 in. lbs.	F	•TQ-6T	—	•TQ-6T-FU	9″
A	9″	TQ-8	TQ-8L	TQ-8-FU	⅜″	100 in. lbs.	10 in. lbs.	F	TQ-8T	—	TQ-8T-FU	9″
A	9″	TQ-12B	TQ-12BL	TQ-12B-FU	⅜″	150 in. lbs.	5 in. lbs.	F	TQ-12T	—	TQ-12T-FU	9″
A	9″	TQ-12BF	TQ-12BFL	TQ-12BF-FU	⅜″	12 ft. lbs.	½ ft. lbs.	F	TQ-12TF	—	TQ-12TF-FU	9″
A	9″	TQ-16	TQ-16L	TQ-16-FU	⅜″	200 in. lbs.	10 in. lbs.	F	TQ-16T	—	TQ-16T-FU	9″
A	9″	TQ-20	TQ-20L	TQ-20-FU	⅜″	250 in. lbs.	10 in. lbs.	F	TQ-20T	—	TQ-20T-FU	9″
A	9″	TQ-25	TQ-25L	TQ-25-FU	⅜″	300 in. lbs.	5 in. lbs.	F	TQ-25T	—	TQ-25T-FU	9″
A	9″	TQ-25F	TQ-25FL	TQ-25F-FU	⅜″	25 ft. lbs.	1 ft. lbs.	F	TQ-25TF	—	TQ-25TF-FU	9″
B	13¼″	TQ-50A	TQ-50AL	TQ-50A-FU	⅜″	600 in. lbs.	20 in. lbs.	F	TQ-50T	—	TQ-50T-FU	9″
B	13¼″	TQ-50AF	TQ-50AFL	TQ-50AF-FU	⅜″	50 ft. lbs.	2 ft. lbs.	F	TQ-50TF	—	TQ-50TF-FU	9″
B	13¼″	TA-51A	TQ-51AL	TQ-51A-FU	½″	600 in. lbs.	20 in. lbs.	F	TQ-51T	—	TQ-51T-FU	9″
B	13¼″	TQ-51AF	TQ-51AFL	TQ-51AF-FU	½″	50 ft. lbs.	2 ft. lbs.	F	TQ-51TF	—	TQ-51TF-FU	9″
C	16½″	TQ-75	TQ-75L	TQ-75-FU	½″	75 ft. lbs.	1 ft. lbs.	F	TQ-75T	—	TQ-75T-FU	12″
C	16½″	TQ-100	TQ-100L	TQ-100-FU	½″	100 ft. lbs.	2 ft. lbs.	F	TQ-100T	—	TQ-100T-FU	18″
C	16½″	TQ-101	TQ-101L	TQ-101-FU	½″	1200 in. lbs.	20 in. lbs.	F	TQ-101T	—	TQ-101T-FU	18″
C	16½″	TQ-150	TQ-150L	TQ-150-FU	½″	150 ft. lbs.	5 ft. lbs.	F	TQ-150T	—	TQ-150T-FU	18″
C	16½″	TQ-151	TQ-151L	TQ-151-FU	½″	1800 in. lbs.	60 in. lbs.	F	TQ-151T	—	TQ-151T-FU	18″
D	24″	TQ-175	TQ-175L	TQ-175-FU	½″	175 ft. lbs.	5 ft. lbs.	F	TQ-175T	—	TQ-175T-FU	24″
D	24″	TQ-200	TQ-200L	TQ-200-FU	½″	200 ft. lbs.	5 ft. lbs.	F	TQ-200T	—	TQ-200T-FU	24″
D	24″	TQ-250	TQ-250L	TQ-250-FU	½″	250 ft. lbs.	10 ft. lbs.	F	TQ-250T	—	TQ-250T-FU	24″
D	24″	TQ-251	TQ-251L	TQ-251-FU	½″	3000 in. lbs.	100 in. lbs.	F	TQ-251T	—	TQ-251T-FU	24″
D	24″	TQ-252	TQ-252L	TQ-252-FU	¾″	250 ft. lbs.	10 ft. lbs.	F	TQ-252T	—	TQ-252T-FU	24″
D	32″	TQ-300	TQ-300L	TQ-300-FU	¾″	300 ft. lbs.	10 ft. lbs.	F	TQ-300T	TQ-300TL	TQ-300T-FU	36″
D	32″	TQ-352B	TQ-352BL	TQ-352B-FU	¾″	350 ft. lbs.	10 ft. lbs.	F	TQ-352T	TQ-352TL	TQ-352T-FU	36″
D	32″	TQ-353	TQ-353L	TQ-353-FU	¾″	4200 in. lbs.	120 in. lbs.	F	TQ-353T	TQ-353TL	TQ-353T-FU	36″
D	32″	TQ-420	TQ-420L	TQ-420-FU	¾″	420 ft. lbs.	10 ft. lbs.	F	TQ-420T	TQ-420TL	TQ-420T-FU	36″
E	42″	TQ-502	TQ-502L	TQ-502-FU	¾″	500 ft. lbs.	10 ft. lbs.	F	TQ-502T	TQ-502TL	TQ-502T-FU	42″
E	42″	TQ-601	TQ-601L	TQ-601-FU	¾″	7200 in. lbs.	120 in. lbs.	F	TQ-601T	TQ-601TL	TQ-601T-FU	42″
E	42″	TQ-602A	TQ-602AL	TQ-602A-FU	¾″	600 ft. lbs.	10 ft. lbs.	F	TQ-602T	TQ-602TL	TQ-602T-FU	42″
E	66½″	TQ-803	TQ-803L	TQ-803-FU	1″	800 ft. lbs.	20 ft. lbs.	F	TQ-803T	TQ-803TL	TQ-803T-FU	66″
E	66½″	TQ-1003A	TQ-1003AL	TQ-1003-FU	1″	1000 ft. lbs.	20 ft. lbs.	F	TQ-1003T	TQ-1003TL	TQ-1003T-FU	66″
E	80″	—	TQ-1503L	TQ-1503-FU	1″	1500 ft. lbs.	25 ft. lbs.	G	—	TQ-1503TL	TQ-1503T-FU	69″
E	80″	—	TQ-2003AL	TQ-2003-FU	1″	2000 ft. lbs.	50 ft. lbs.	G	—	TQ-2003TL	TQ-2003T-FU	69″
E	80″	—	TQ-2005L	TQ-2005-FU	1½″	2000 ft. lbs.	50 ft. lbs.	G	—	TQ-2005TL	TQ-2005T-FU	69″
E	140″	—	TQ-3005L	—	1½″	3000 ft. lbs.	50 ft. lbs.	G	—	TQ-3005TL	TQ-3005T-FU	140″
E	140″	—	TQ-3335L	—	1½″	40,000 in. lbs.	500 in. lbs.	G	—	TQ-3335TL	TQ-3335T-FU	140″
—	—	—	—	—	1½″	4000 ft. lbs.	50 ft. lbs.	G	—	TQ-4005TL	TQ-4005T-FU	151″

*Includes the removable handles on E models.

• These models have ⅜" square drive, not ¼".

▲ Federal Specs: GGG-W-686B, Type 2, styles A and C applies to all items listed above.

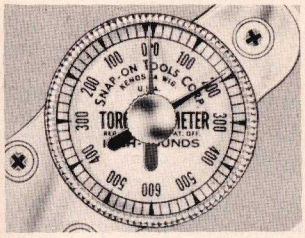
Snap-on® TORQOMETERS®... STURDY... DEPENDABLE... ACCURATE



ALL MODELS CATALOGUED ARE GUARANTEED ACCURATE WITHIN 3% OF THE DIAL AND POINTER READING. FOR SPECIAL APPLICATIONS UNITS OF EVEN GREATER ACCURACY CAN BE BUILT

SUPERIOR FEATURES MAKE Snap-on® TORQOMETERS YOUR BEST TORQUE WRENCH BUY

- **FOR RIGHT, AND LEFT HAND THREADS** — Dial pointer works both ways on the dial.
- **MOVABLE POINTER AND DIAL** — The position of the bolt or stud to be tensioned sometimes makes it difficult for the operator to see the pointer. To remedy this condition, the "Torqometer" is equipped with a movable pointer and dial which may be pre-set to the most easily read position.
- **BLACK CALIBRATIONS** — Against a white dial background make the "Torqometer" easy to read.
- **EXTREME SENSITIVENESS** — The applied torque is amplified approximately 500 times on the dial for hairline accuracy in torque measurement.
- **BUILT-IN SAFETY FACTORS** — Constructed to withstand an overload beyond dial capacity of each model far greater than the average mechanic is apt to apply. A slip clutch protects pointer mechanism.



FOLLOW-UP POINTER MODELS

Have two needles which move as one as long as pressure is applied. When pressure is released, one needle returns to zero while the "pointer" needle remains at reading attained. Pointer needle is reset by a knurled screw mounted in the center of the dial face.

- **CONSISTENT READINGS** — The accuracy of the "Torqometer" is not affected by the way it is held. Pull on the end of the handle or close to the dial and the reading remains the same. This is not true of all tension wrenches.
- **TORQUE MEASURING PRINCIPLE** — SNAP-ON "Torqometers" determine bolt tension by measuring the amount of twist (torque) developed in a specially heat treated alloy steel plug within the instrument as bolt turning pressure is applied.
- **SHOCK-PROOF DIAL MECHANISM** — The sensitive dial mechanism is supported by a friction ball which assures extreme sensitiveness in all measurements.
- **FRICTION-FREE OPERATION** — Floating connecting beam between torque plug and dial mechanism has no bearing points and consequently no friction drag. This construction together with the watch-like precision of the dial mechanism renders the "Torqometer" practically "friction-free."
- **LIGHT INDICATOR MODELS** — For use in locations where it is difficult to read the dials. Light operates when pre-set dial reading is reached.
- **STREAMLINED LIGHT WEIGHT** — Made of durable, extra-strong aluminum alloy, the well balanced case protects the vital parts of the instrument and still provides a tool that is unbeatable for ease and comfort in operation. Slender design permits use of the tool in very close quarters.

U.S. Patent Number 2,715,333 and other patents pending. Canadian Patent Number 463,713. Also patented in other countries.

▲ MODELS AVAILABLE WITH COMBINATION ENGLISH AND METRIC CALIBRATED DIALS

IN LINE HANDLE MODELS — Types A B C D and E					SQUARE DRIVE SIZE AND CAPACITY					"T" Handle Models — Types F and G				
					Dial Calibration									
Model Type	* Overall Length	Standard Model	Indicator Light Model	Follow-Up Pointer Model	Sq. Dr.	Metric		English		Model Type	Standard "T" Model	Indicator Light Model	Follow-Up Pointer Model	Handle Length
						Max. Range	Divisions	Max. Range	Divisions					
A	9″	TQC-1	TQC-1L	TQC-1-FU	¼″	15 cm. kgs.	1 cm. kgs.	15 in. lbs.	1 in. lb.	F	•TQC-1T	—	•TQC-1T-FU	9″
A	9″	TQC-3	TQC-3L	TQC-3-FU	¼″	35 cm. kgs.	1 cm. kgs.	30 in. lbs.	1 in. lb.	F	•TQC-3T	—	•TQC-3T-FU	9″
A	9″	TQC-4	TQC-4L	TQC-4-FU	¼″	50 cm. kgs.	1 cm. kgs.	50 in. lbs.	1 in. lb.	F	•TQC-4T	—	•TQC-4T-FU	9″
A	9″	TQC-6	TQC-6L	TQC-6-FU	¼″	90 cm. kgs.	3 cm. kgs.	75 in. lbs.	5 in. lbs.	F	•TQC-6T	—	•TQC-6T-FU	9″
A	9″	TQC-12B	TQC-12L	TQC-12-FU	⅜″	175 cm. kgs.	6 cm. kgs.	150 in. lbs.	5 in. lbs.	F	TQC-12T	—	TQC-12T-FU	9″
A	9″	TQC-25	TQC-25L	TQC-25-FU	⅜″	300 cm. kgs.	10 cm. kgs.	25 ft. lbs.	1 ft. lb.	F	TQC-25T	—	TQC-25T-FU	9″
B	13¼″	TQC-50	TQC-50L	TQC-50-FU	⅜″	7 m. kgs.	20 cm. kgs.	600 in. lbs.	20 in. lbs.	F	TQC-50T	—	TQC-50T-FU	9″
B	13¼″	TQC-50F	TQC-50FL	TQC-50F-FU	⅜″	7 m. kgs.	20 cm. kgs.	50 ft. lbs.	2 ft. lbs.	F	TQC-50TF	—	TQC-50TF-FU	9″
B	13¼″	TQC-51	TQC-51L	TQC-51-FU	½″	7 m. kgs.	20 cm. kgs.	600 in. lbs.	20 in. lbs.	F	TQC-51T	—	TQC-51T-FU	9″
B	13¼″	TQC-51F	TQC-51FL	TQC-51F-FU	½″	7 m. kgs.	20 cm. kgs.	50 ft. lbs.	2 ft. lbs.	F	TQC-51TF	—	TQC-51TF-FU	9″
C	16½″	TQC-150	TQC-150L	TQC-150-FU	½″	20 m. kgs.	1 m. kg.	150 ft. lbs.	10 ft. lbs.	F	TQC-150T	—	TQC-150T-FU	18″
D	24″	TQC-175	TQC-175L	TQC-175-FU	½″	24 m. kgs.	1 m. kg.	175 ft. lbs.	5 ft. lbs.	F	TQC-175T	—	TQC-175T-FU	24″
D	24″	TQC-250	TQC-250L	TQC-250-FU	½″	35 m. kgs.	1 m. kg.	250 ft. lbs.	10 ft. lbs.	F	TQC-250T	—	TQC-250T-FU	24″
D	24″	TQC-252	TQC-252L	TQC-252-FU	¾″	35 m. kgs.	1 m. kgs.	250 ft. lbs.	10 ft. lbs.	F	TQC-252T	—	TQC-252T-FU	24″
D	32″	TQC-300	TQC-300L	TQC-300-FU	¾″	40 m. kgs.	1 m. kgs.	300 ft. lbs.	10 ft. lbs.	F	TQC-300T	TQC-300TL	TQC-300T-FU	36″
D	32″	TQC-352B	TQC-352L	TQC-352-FU	¾″	50 m. kgs.	2 m. kgs.	360 ft. lbs.	15 ft. lbs.	F	TQC-352T	TQC-325TL	TQC-352T-FU	36″
D	32″	TQC-420	TQC-420L	TQC-420-FU	¾″	55 m. kgs.	1 m. kgs.	420 ft. lbs.	10 ft. lbs.	F	TQC-420T	TQC-420TL	TQC-420T-FU	36″
E	42″	TQC-602A	TQC-602AL	TQC-602-FU	¾″	80 m. kgs.	2 m. kgs.	600 ft. lbs.	20 ft. lbs.	F	TQC-602T	TQC-602TL	TQC-602T-FU	42″
E	66½″	TQC-803	TQC-803L	TQC-803-FU	1″	110 m. kgs.	2 m. kgs.	800 ft. lbs.	25 ft. lbs.	F	TQC-803T	TQC-803TL	TQC-803T-FU	66″
E	66½″	TQC-1003A	TQC-1003AL	TQC-1003-FU	1″	130 m. kgs.	2 m. kgs.	1000 ft. lbs.	20 ft. lbs.	F	TQC-1003T	TQC-1003TL	TQC-1003T-FU	66″
E	79″	—	TQC-1503AL	TQC-1503-FU	1″	200 m. kgs.	10 m. kgs.	1500 ft. lbs.	50 ft. lbs.	G	—	TQC-1503TL	TQC-1503T-FU	69″
E	79″	—	TQC-2003L	TQC-2003-FU	1″	280 m. kgs.	10 m. kgs.	2000 ft. lbs.	100 ft. lbs.	G	—	TQC-2003TL	TQC-2003T-FU	69″
E	79″	—	TQC-2005L	TQC-2005-FU	1½″	280 m. kgs.	10 m. kgs.	2000 ft. lbs.	100 ft. lbs.	G	—	TQC-2005TL	TQC-2005T-FU	69″
E	138″	—	TQC-3005L	—	1½″	400 m. kgs.	10 m. kgs.	3000 ft. lbs.	100 ft. lbs.	G	—	TQC-3005TL	TQC-3005T-FU	140″
—	—	—	—	—	1½″	550 m. kgs.	10 m. kgs.	4000 ft. lbs.	100 ft. lbs.	G	—	TQC-4005TL	TQC-4005T-FU	151″

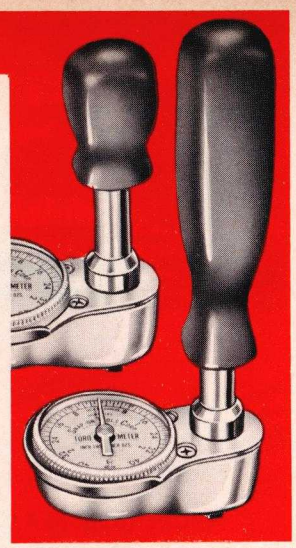
*Includes the removable handles on E models.

• These models have ⅜" square drive.

▲ Federal Specs: GGG-W-686B, type 2, style A and C, applies to items indicated by symbol ▲.

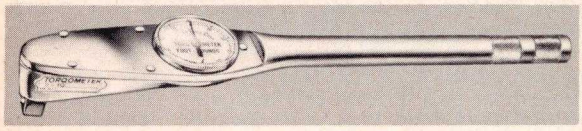
Snap-on TORQUE DRIVERS—¼" Square Drive

SNAP-ON Torque Drivers give you precise control where screws or nuts must be torqued to exact tension on any precision assembly work. The dial may be adjusted right or left for convenient use and the driver can be used either by setting pointed at desired torque and tightening fastener until pointer reaches zero, or by setting pointer on zero and tightening until pointer reaches desired torque reading. Each Torque Driver has a ¼" square drive and is available in standard (8½" length) or stubby (4⅞" length) types. Handle grips are tough black plastic — comfortable to hold and use.



Square Drive	Standard Model	Follow-Up Pointer Model	Stubby Standard Model	Stubby Follow-Up Pointer Model	Dial Calibration		Models with English and Metric Combination Dials				
					Maximum Range	Divisions	Standard Model	Follow-Up Model	Stubby Standard Model	Stubby Follow-Up Model	Maximum Range
¼"	TQS-004	TQS-004-FU	TQSS-004	TQSS-004-FU	8 in. oz.	¼ in. oz.	—	—	—	—	—
¼"	TQS-008	TQS-008-FU	TQSS-008	TQSS-008-FU	16 in. oz.	½ in. oz.	—	—	—	—	—
¼"	TQS-012	TQS-012-FU	TQSS-012	TQSS-012-FU	24 in. oz.	½ in. oz.	—	—	—	—	—
¼"	TQS-025	TQS-025-FU	TQSS-025	TQSS-025-FU	48 in. oz.	1 in. oz.	—	—	—	—	—
¼"	TQS-050	TQS-050-FU	TQSS-050	TQSS-050-FU	96 in. oz.	2 in. oz.	—	—	—	—	—
¼"	TQS-1	TQS-1-FU	TQSS-1	TQSS-1-FU	192 in. oz.	4 in. oz.	TQSC-1	TQSC-1-FU	TQSCS-1	TQSCS-1-FU	15 cm. kg.
¼"	TQS-2	TQS-2-FU	TQSS-2	TQSS-2-FU	384 in. oz.	8 in. oz.	—	—	—	—	—
¼"	TQS-2.5	TQS-2.5-FU	TQSS-2.5	TQSS-2.5-FU	480 in. oz.	12 in. oz.	TQSC-2.5	TQSC-2.5-FU	TQSCS-2.5	TQSCS-2.5-FU	35 cm. kg.
¼"	TQS-4	TQS-4-FU	TQSS-4	TQSS-4-FU	50 in. lbs.	2 in. lbs.	TQSC-4	TQSC-4-FU	TQSCS-4	TQSCS-4-FU	50 cm. kg.
¼"	TQS-6	TQS-6-FU	TQSS-6	TQSS-6-FU	75 in. lbs.	1 in. lbs.	TQSC-6	TQSC-6-FU	TQSCS-6	TQSCS-6-FU	90 cm. kg.

▲ COMPACT-HEAD TORQOMETERS

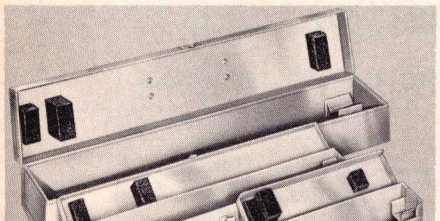


Engineered to overcome clearance problems on many bolt tensioning jobs. The square drive is located very close to the end of the tool to prevent the housing extending past the diameter of the socket wrench. In addition, the housing has a slim-taper nose. These features permit access into very limited working areas.

ENGLISH DIALS					ENGLISH-METRIC COMBINATION DIALS			
Standard Model	Follow-Up Model	Max. Range	Sq. Dr.	Length	Comb. Model	Comb. Follow-Up	Max. Range Metric	Max. Range English
TQE-3	TQE-3-FU	30 in. lbs.	⅜"	9¾"	TQEC-3	TQEC-3-FU	35 cm. kgs.	30 in. lbs.
TQE-4	TQE-4-FU	50 in. lbs.	⅜"	9¾"	TQEC-4	TQEC-4-FU	53 cm. kgs.	50 in. lbs.
TQE-6	TQE-6-FU	75 in. lbs.	⅜"	9¾"	TQEC-6	TQEC-6-FU	90 cm. kgs.	75 in. lbs.
TQE-8	TQE-8-FU	100 in. lbs.	⅜"	9¾"	TQEC-8	TQEC-8-FU	114 cm. kgs.	100 in. lbs.
TQE-12	TQE-12-FU	150 in. lbs.	⅜"	9¾"	TQEC-12	TQEC-12-FU	175 cm. kgs.	150 in. lbs.
TQE-16	TQE-16-FU	200 in. lbs.	⅜"	9¾"	TQEC-16	TQEC-16-FU	225 cm. kgs.	200 in. lbs.
TQE-25	TQE-25-FU	300 in. lbs.	⅜"	9¾"	TQEC-25	TQEC-25-FU	350 cm. kgs.	25 ft. lbs.
TQE-50	TQE-50-FU	600 in. lbs.	⅜"	12½"	TQEC-50	TQEC-50-FU	700 cm. kgs.	600 in. lbs.
TQE-50F	TQE-50F-FU	50 ft. lbs.	⅜"	12½"	—	—	—	—
TQE-60	TQE-60-FU	720 in. lbs.	⅜"	12½"	TQEC-60	TQEC-60-FU	800 cm. kgs.	700 in. lbs.
TQE-100	TQE-100-FU	100 ft. lbs.	½"	18¾"	TQEC-100	TQEC-100-FU	1400 cm. kgs.	100 ft. lbs.
TQE-101	TQE-101-FU	1200 in. lbs.	½"	18¾"	TQEC-101	TQEC-101-FU	1400 cm. kgs.	1200 in. lbs.
TQE-150	TQE-150-FU	150 ft. lbs.	½"	18¾"	TQEC-150	TQEC-150-FU	20 m. kgs.	150 ft. lbs.
TQE-151	TQE-151-FU	1800 in. lbs.	½"	18¾"	—	—	—	—
TQE-175	TQE-175-FU	175 ft. lbs.	½"	20⅝"	TQEC-175	TQEC-175-FU	24 m. kgs.	175 ft. lbs.
TQE-200	TQE-200-FU	200 ft. lbs.	½"	20⅝"	TQEC-200	TQEC-200-FU	30 m. kgs.	200 ft. lbs.

THESE STURDY METAL BOXES PROTECT YOUR TORQOMETERS AGAINST DAMAGE

These sturdy metal boxes not only provide protection for a precision-built tool that helps retain its accuracy and its appearance, but also gives you a convenient carrier from job to job. Each box has shaped metal rests to hold the Torqometer and foam rubber bumpers inside the lid to keep it from rattling. Each box will hold any "in-line" model Torqometer within the same overall length. Boxes have red enamel finish and have carrying handles on the lid. All are basically like the three examples illustrated.



KRA-76 Metal Box 10½" long, 2 7/16" wide, 2 19/32" high. For Torqometer models 9" long. (Not "T" Handle models.) Also holds a ratchet adaptor.

KRA-77 Metal Box 15¼" long, 2 7/16" wide, 2 21/32" high. For Torqometer models 13¼" long. (Not "T" Handle models.) Also holds a ratchet adaptor.

KRA-78 Metal Box 18½" long, 2 7/16" wide, 2 11/16" high. For Torqometer models 16½" long. (Not "T" Handle models.) Also holds a ratchet adaptor.

KRA-135 Metal Box 25½" long, 4¼" wide, 3⅞" high. For Torqometer models 24" long and 42" long. The latter have removeable handles that fit into the box. (Not "T" Handle models.)

KRA-80 Metal Box 32¼" long, 3½" wide, 3⅝" high. For Torqometer models 32" long. (Not "T" Handle models.)

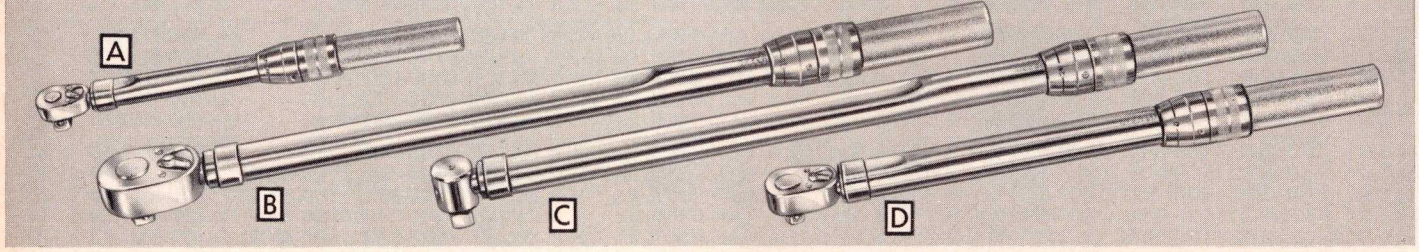
KRA-81 Metal Box 24⅝" long, 5¼" wide, 3 21/32" high. For Torqometer models in the 502, 601 and 602 series. The detachable handle rests along side the head. (Not "T" Handle models.)

KRA-82 Metal Box 26¼" long, 4 11/32" wide, 4¼" high. For Torqometer models in the 803 and 1003 series. The detachable handle is too long to be stored in the box. (Not for "T" Handle models.)

KRA-83 Metal Box 28" long, 4 13/16" wide, 4 11/16" high. For Torqometer models in the 1503 and 2003 series. The detachable handles are too long to be stored in the box. (Not for "T" Handle models.)

KRA-88 Metal Box 31¾" long, 5½" wide, 5⅞" high. For "T" Handle Torqometer model TQ-2005TL. The detachable handles are too long to be stored in the box.

Snap-on TORQUE INDICATING WRENCHES



These wrenches have a micrometer-type adjustment to any desired torque setting within the capacity range of the wrench. An audible sound or "click" signals when the proper torque has been achieved — very important in areas where a dial cannot be seen. They are ruggedly built, yet light in weight. Torqueing can be done in either left or right hand direction. The slender heads permit use in very narrow working quarters.

Sq. Dr.	Fixed Head Model	Ratchet Head Model	Capacity Min.	Capacity Max.	Divisions	Approx. Length
⅜"	—	▲AQ-2150R	5 in. lbs.	150 in. lbs.	1 in. lb.	9"
⅜"	—	▲BQ-2750R	100 in. lbs.	750 in. lbs.	5 in. lbs.	13 3/16"
⅜"	—	▲BQ-275FR	5 ft. lbs.	75 ft. lbs.	1 ft. lb.	13 3/16"
½"	▲CQ-3150F	▲DQ-3150FR	10 ft. lbs.	150 ft. lbs.	1 ft. lb.	19"

▲ Federal Specs: GGG-W-686b applies to Compact-Head Torqometers.
MIL-H-4034b applies to Torque Indicating Wrenches.

IMPACT WRENCH SETS

NO DANGEROUS TORQUE—SO SAFE YOU CAN BOLT OR DRILL WITH ONE HAND



YOU GET ALL THESE SUPERIOR FEATURES IN *Blue-Point* ELECTRIC IMPACT WRENCHES

Models Available

With Friction Ring In Square Drive		With Lock Button In Square Drive	
EWF-515	**115 Volt**	**EWL-515**	**115 Volt**
EWF-520	**220 Volt**	**EWL-520**	**220 Volt**

Heavy duty impacting mechanism accumulates energy and releases it in powerful, instantaneous blows for utmost driving torque and full-impact force. Smooth, constant reciprocating impactor action and efficiency is maintained indefinitely regardless of length of service. Anvil is equipped with roller bearings for long bearing life.

Special heat treated heavy-duty gears provide efficient speed reduction in compact housing.

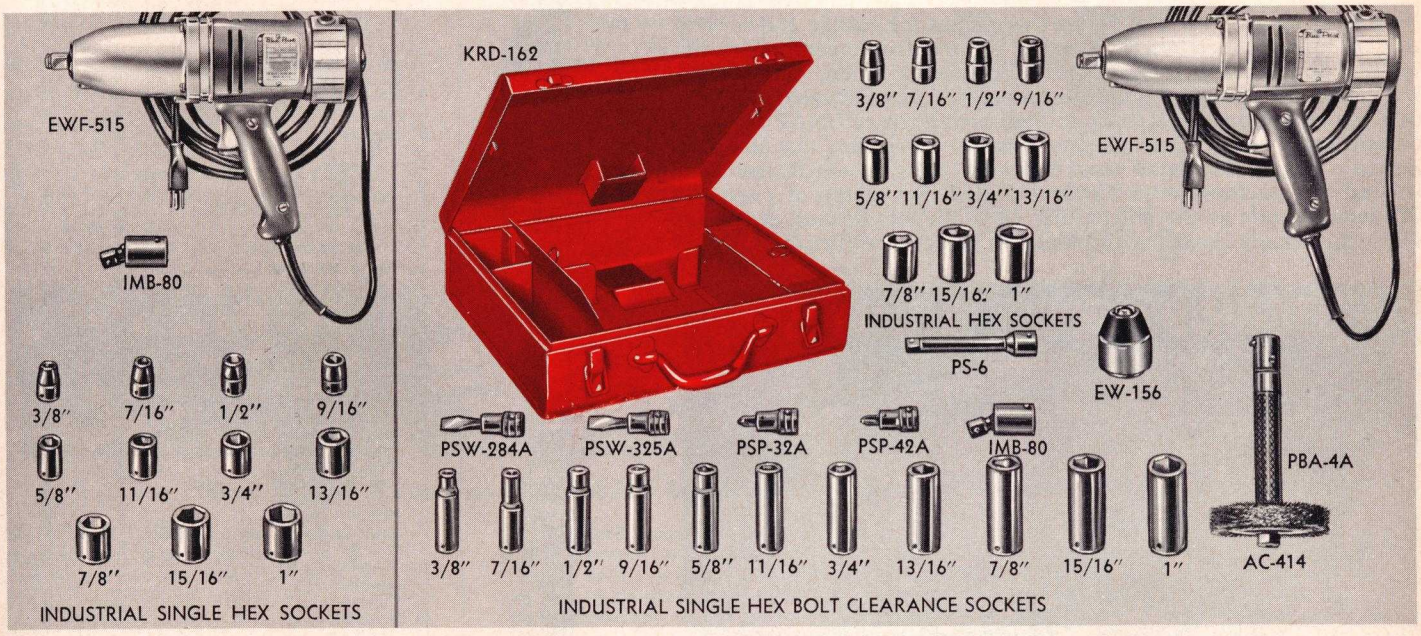
Armature construction and spiral leads are designed to absorb vibration and give trouble-free service.

Positive Control Reversing Switch Ring is grooved to provide a sure grip. Trigger Switch is heavy-duty "Instant Release" 2-pole type.

Centrifugal fan and end cap air intake slots provide extremely efficient ventilation and cool running.

SPECIFICATIONS

MOTOR: Universal-AC-DC 25/60 Cycles, Single Phase.
VOLTAGES: 115 Volt, 220 Volt.
AMPERES: Conservative rating 4 amps.
SPEED: 1800 R.P.M. No Load — Forward or Reverse.
IMPACTS: 1800 per minute.
LENGTH: 10⅞" overall.
WIDTH: 3" side to side.
CLEARANCE: Top of wrench to center of spindle is only 1½". The wrench can be used in very close places.
BALANCE: The length and weight are well balanced on the handle making the wrench easy to use without tiring the arm and hand.
CORD: 10 feet of Heavy Duty Neoprene Sheathed with molded strain reliever.
WEIGHT: Net weight with cord, 7 lbs., 5 oz.



Blue-Point IMPACT WRENCH SETS

EW-5113-B Impact Wrench Set. A basic nut turning set. Consists of the EWF-515 Impact Wrench (115 volt). IMB-80 universal joint and eleven industrial standard hexagon sockets, IM-120 through IM-320, listed at the right. In KRD-162 special metal case.

EW-5213-B Set. Above set but with EWF-520 Wrench (220 volt).

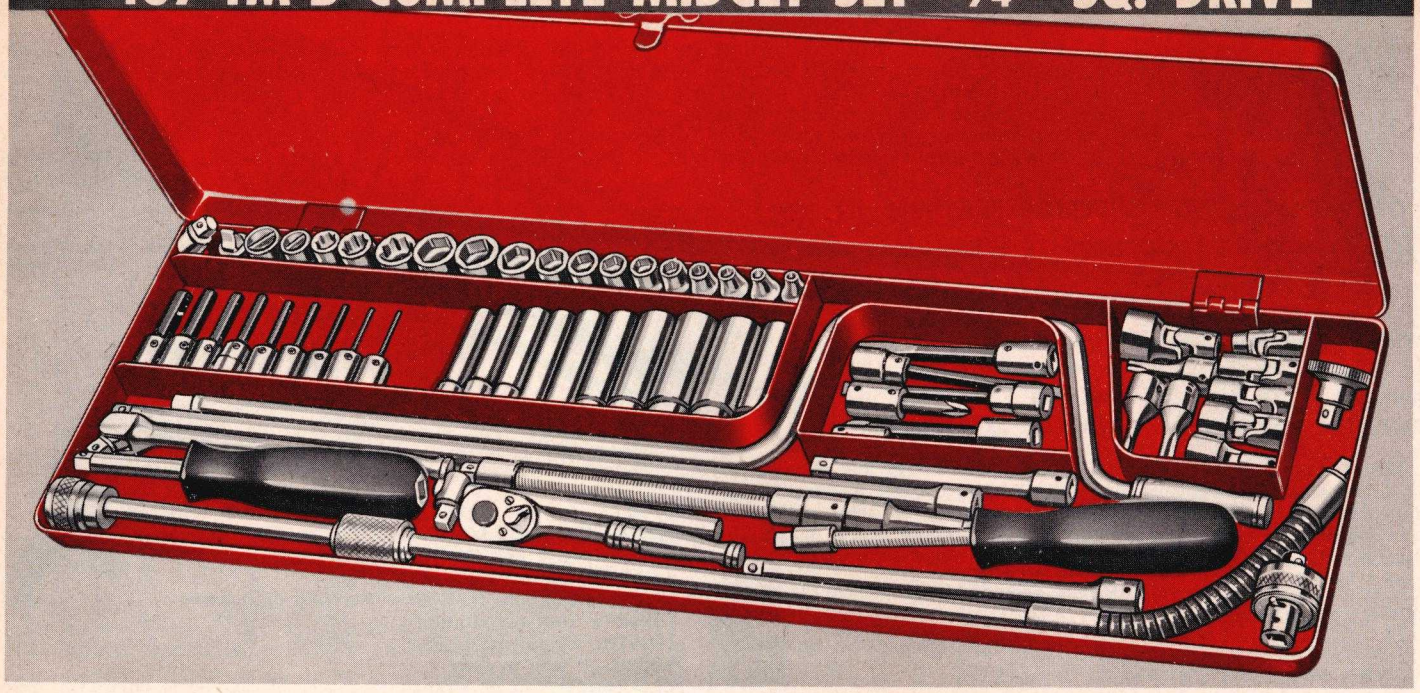
EW-5132-B Impact Wrench Set. Contains complete ranges of standard and bolt clearance sockets, the EWF-515 Impact Wrench (115 volt) and other units listed at the right. In KRD-162 special metal case.

EW-5232-B Set. Above set but with EWF-520 Wrench (220 volt).

KRD-162 Metal Case. Sturdy, spot welded, heavy gauge steel construction. Padded cradle holds the wrench securely. Hinged lids prevent sockets from spilling when case is lifted. Has two clasp fasteners, large metal handle and red enamel finish. Size 15¼" x 13½" x 4¾".

CONTENTS OF EW-5132-B SET SHOWN ABOVE		INDUSTRIAL HEXAGON SOCKETS			
		Standard		Bolt Clearance	
No.	Description	No.	Size	No.	Size
EWF-515	Impact Wrench (115 volt)	IM-120	3/8"	SIM-120	3/8"
EW-156	Collet-Type Chuck	IM-140	7/16"	SIM-140	7/16"
PBA-4A	Wire Brush Adaptor	IM-160	1/2"	SIM-160	1/2"
AC-414	4¼" Diameter, Wire Brush	IM-180	9/16"	SIM-180	9/16"
IMB-80	Universal Joint	IM-200	5/8"	SIM-200	5/8"
PS-6	5" Extension Bar	IM-220	11/16"	SIM-220	11/16"
PSW-284A	7/16" Blade Screw Driver	IM-240	3/4"	SIM-240	3/4"
PSW-325A	1/2" Blade Screw Driver	IM-260	13/16"	SIM-260	13/16"
PSP-32A	No. 3 Phillips Screw Driver	IM-280	7/8"	SIM-280	7/8"
PSP-42A	No. 4 Phillips Screw Driver	IM-300	15/16"	SIM-300	15/16"
KRD-162	Metal Box. 15¼"x13½"x4¾"	IM-320	1"	SIM-320	1"

167-TM-B COMPLETE MIDGET SET—¼" SQ. DRIVE



167-TM-B Complete Midget Set, 67 tools in KRA-282 Metal Box (19¼" x 5⅝" x 1¼").

167-TM Set. Above Set without Box.

Select the High Quality Snap-on Set You need for YOUR Work

Here are real utility sets of Midget wrenches for garage and service station, aircraft instrument, electric and electronic component assembly and service and all other businesses where tiny socket wrenches are needed for product assembly or maintenance. Each unit is proportioned and built to high standards of SNAP-ON tool design and quality. Wrench openings are precision machined to insure accurate fitting to tiny nuts and bolts, scientifically heat treated to give long wear. Chrome plated. Set at top of page has 67 tools, the one at the bottom has 36. Both sets housed in special die-formed metal boxes with baked-on red enamel finish.

136-TM-B MIDGET UTILITY SET



36 Small Tools For Work On Tiny Jobs

136-TM-B Midget Utility Set in KRA-275 Metal Box (8¾6"x5¹¹⁄16"x1").

136-TM Midget Set. Above Set without Box.

Stock No.	Description	136-TM Set	167-TM Set
TM-70B	Ratchet Wrench	X	X
TM-67A	Ratchet Adaptor	X	X
TMS-70	Ratchet Spinner	X	X
TM-5	Sliding Bar		X
TM-10F	Nut Spinner	X	X
TMS-4B	Speeder Handle		X
TM-4AS	Plastic Grip Handle	X	X
TMU-8	Universal Joint	X	X
TM-2	2" Extension	X	X
TMX-4	4" Extension	X	X
TM-60	6" Extension	X	X
TM-140	14" Extension		X
TM-62A	Flexible Handle		X
TM-61	6" Flextension	X	X
TM-65	Flexible Adjuster Handle		X
TM-04	1/8" Single Hex Socket	X	X
TM-05	5/32" Single Hex Socket	X	X
TM-6	3/16" Single Hex Socket	X	X
TM-7	7/32" Single Hex Socket	X	X
TM-8	1/4" Single Hex Socket	X	X
TM-9	9/32" Single Hex Socket	X	X
TM-10	5/16" Single Hex Socket	X	X
TM-11	11/32" Single Hex Socket	X	X
TM-12	3/8" Single Hex Socket	X	X
TM-14	7/16" Single Hex Socket	X	X
TM-16	1/2" Single Hex Socket	X	X
TM-18	9/16" Single Hex Socket	X	X
STM-6	3/16" Deep Hex Socket	X	X
STM-7	7/32" Deep Hex Socket	X	X
STM-8	1/4" Deep Hex Socket	X	X
STM-9	9/32" Deep Hex Socket	X	X
STM-10	5/16" Deep Hex Socket	X	X
STM-11	11/32" Deep Hex Socket	X	X
STM-12	3/8" Deep Hex Socket	X	X
STM-14	7/16" Deep Hex Socket	X	X
STM-16	1/2" Deep Hex Socket	X	X
STM-18	9/16" Deep Hex Socket	X	X
TMU-81	1/4" Flexocket		X
TMU-101	5/16" Flexocket		X
TMU-121	3/8" Flexocket		X
TMU-141	7/16" Flexocket		X
TMU-161	1/2" Flexocket		X
TMU-181	9/16" Flexocket		X
TM-408	1/4" Double Sq. Socket	X	X
TM-410	5/16" Double Sq. Socket	X	X
TM-412	3/8" Double Sq. Socket	X	X
TM-82	3/4" Tip Short Screw Driver	X	X
TMC-104A	3/16" Tip Screw Driver		X
TMC-105A	1/4" Tip Screw Driver		X
TMC-106A	3/8" Tip Screw Driver		X
TMP-12A	No. 1 Phillips Screw Driver		X
TMP-22A	No. 2 Phillips Screw Driver		X
TMP-23A	No. 2 Phillips Screw Driver (Long)		X
TM-27	11/64" Clutch Screw Driver		X
TM-30	15/64" Clutch Screw Driver		X
TM-31	5/32" Clutch Screw Driver		X
TMA-2½	5/64" Hex Head Screw Driver		X
TMA-3	3/32" Hex Head Screw Driver		X
TMA-3½	7/64" Hex Head Screw Driver		X
TMA-4	1/8" Hex Head Screw Driver		X
TMA-4½	9/64" Hex Head Screw Driver		X
TMA-5	5/32" Hex Head Screw Driver		X
TMA-6	3/16" Hex Head Screw Driver		X
TMA-7	7/32" Hex Head Screw Driver		X
TMA-8	1/4" Hex Head Screw Driver		X
TM-84	1/32" x 7/16" Screw Driver Blade		X
TM-83A	1/32" x 3/8" Screw Driver Blade		X

POPULAR SETS OF MIDGET Snap-on® WRENCHES



Don't cuss out those tiny, hard-to-reach jobs. Make them pay off with a SNAP-ON ¼" drive Midget wrench set. It's just the ticket for dashboard work, distributor work, air conditioner work, etc. For work on radio, television, and all electronic and electrical assembly and service they meet the most exacting requirements. SNAP-ON quality and precision machining and heat treatment really pays off on these tiny tools. You benefit from the *Flank Drive* configuration of the hex sockets (see page 5), a factor that is particularly important on small nut tightening.

MIDGET SETS

Ⓐ **120-TM-B Midget Standard Set.** Contains twenty popular wrenches and handles in our ¼" drive line as listed at right. In KRA-255 metal box. Box is 6 13/32"x4 3/16"x1".

120-TM Set. Above set without box.

Ⓑ **115-TM-B Midget Flex Set.** Excellent for work on small assemblies or in cramped areas. Complete in plastic tray and KRA-229 Metal Box. Box is 7 9/16" x 2 3/8" x 1 3/16".

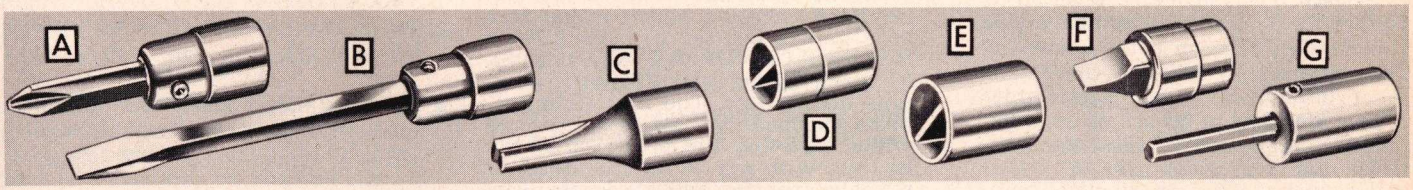
115-TM Set. Above set without box.

Ⓒ **113-TM-B Midget Basic Set.** Gives you the most basic sockets and a nut spinner. In KRA-222B Metal Box (6 7/16" x 2 3/8" x 1 3/16").

113-TM Set. Above set without box.

CONTENTS OF SETS

Stock No.	Description	120-TM Set	115-TM Set	113-TM Set
TM-2	2" Extension Bar.....	X	X	...
TM-5	Sliding Bar Handle....	X	...	...
TM-4A	Plastic-Grip Handle...	X	...	...
TM-10F	Nut Spinner Handle...	X	...	X
TM-60	6" Extension Bar.....	X	...	...
TM-70A	Ratchet Wrench.....	X	...	...
TM-04	1/8" Single Hex Socket	...	X	...
TM-05	5/32" Single Hex Socket	...	X	...
TM-6	3/16" Single Hex Socket	X	X	X
TM-7	7/32" Single Hex Socket	X	X	X
TM-8	¼" Single Hex Socket.	X	X	X
TM-9	9/32" Single Hex Socket	X	X	X
TM-10	5/16" Single Hex Socket	X	X	X
TM-11	11/32" Single Hex Socket	X	X	X
TM-12	3/8" Single Hex Socket	X	X	X
TM-14	7/16" Single Hex Socket	X	X	X
TM-16	½" Single Hex Socket.	X	X	X
TM-18	9/16" Single Hex Socket	X	X	...
TM-408	¼" Square Socket....	X	...	X
TM-410	5/16" Square Socket...	X	...	X
TM-412	3/8" Square Socket....	X	...	X
TM-711	Flexhead Ratchet.....	...	X	...
TMU-8	Universal Joint.....	X	...	...
TMX-4	4" Extension Bar.....	...	X	...



These Midget Attachments with 1/4" Square Drive Increase Usefulness of Your Kit

Ⓐ **Midget Phillips Screw Drivers.**

TMP-01 No. 0 Driver. 1 27/32" long.
TMP-01-2 Extra No. 0 Bit. 1" long.
ESD-319 Roll-Pin for above.

TMP-12A No. 1 Driver. 1 27/32" long.
TMP-12-2 Extra No. 1 Bit, 1 5/16" long.

TMP-21 No. 2 Driver. 1 7/32" long.
TMP-21-2 Extra No. 2 Bit, 1 1/16" long.

TMP-22A No. 2 Driver. 1 27/32" long.
FP-22A-2 Extra No. 2 Bit, 1 5/16" long.

TMP-23A No. 2 Driver. 3" long.
TMP-23A-2 Extra No. 2 Bit, 2½" long.
ESD-303 Roll-Pin for above.

Ⓒ **Midget Clutch-type Screw Drivers.** Built short for close-quarter turning of clutch-type screws, sometimes called "butterfly" or "figure-8" screws. ¼" square drive, 1 3/8" long.

TM-27 Screw Driver. 11/64" bit diameter.
TM-30 Screw Driver. 15/64" bit diameter.
TM-31 Screw Driver. 5/32" bit diameter.

Ⓑ **Standard Screw Drivers.** Slender, long screw drivers with standard tip. Save time on many jobs where regular drivers would be awkward to use or where extra turning leverage is needed to break screws loose. Each is 2 7/8" long.

▲ **TMC-104A Screw Driver.** 3/16" x .032" tip.
TMC-104A-2 Extra Bit.
ESD-319 Roll-Pin for TMC-104A.

TMC-105A Screw Driver. ¼" x .032" tip.
TMC-105B-2 Extra Bit.

TMC-106A Screw Driver. 3/8" x .042" tip.
TMC-106A-2 Extra Bit.
ESD-303 Roll-Pin for TMC-105A & TMC-106A.

Screw Driver Attachments. Used with TM-65 wrench or other ¼" drive handles. Blade is recessed in outer wall of socket to self-center. Made for carburetor work but have other uses.

Ⓓ **TM-83A** 1/32" x 3/8" blade.

Ⓔ **TM-843** 1/32" x 7/16" blade.

Ⓕ **TM-82 Short Screw Driver.** Works where space is limited. Blade tip is ¼" x .032" and is replaceable. 7/8" long.
TM-82-2 Screw Driver Bit only.
ESD-315 Roll-Pin only.

▲ Ⓖ **Hex Head Cap Screw Drivers.** Useful in electronic, missile assembly, etc.

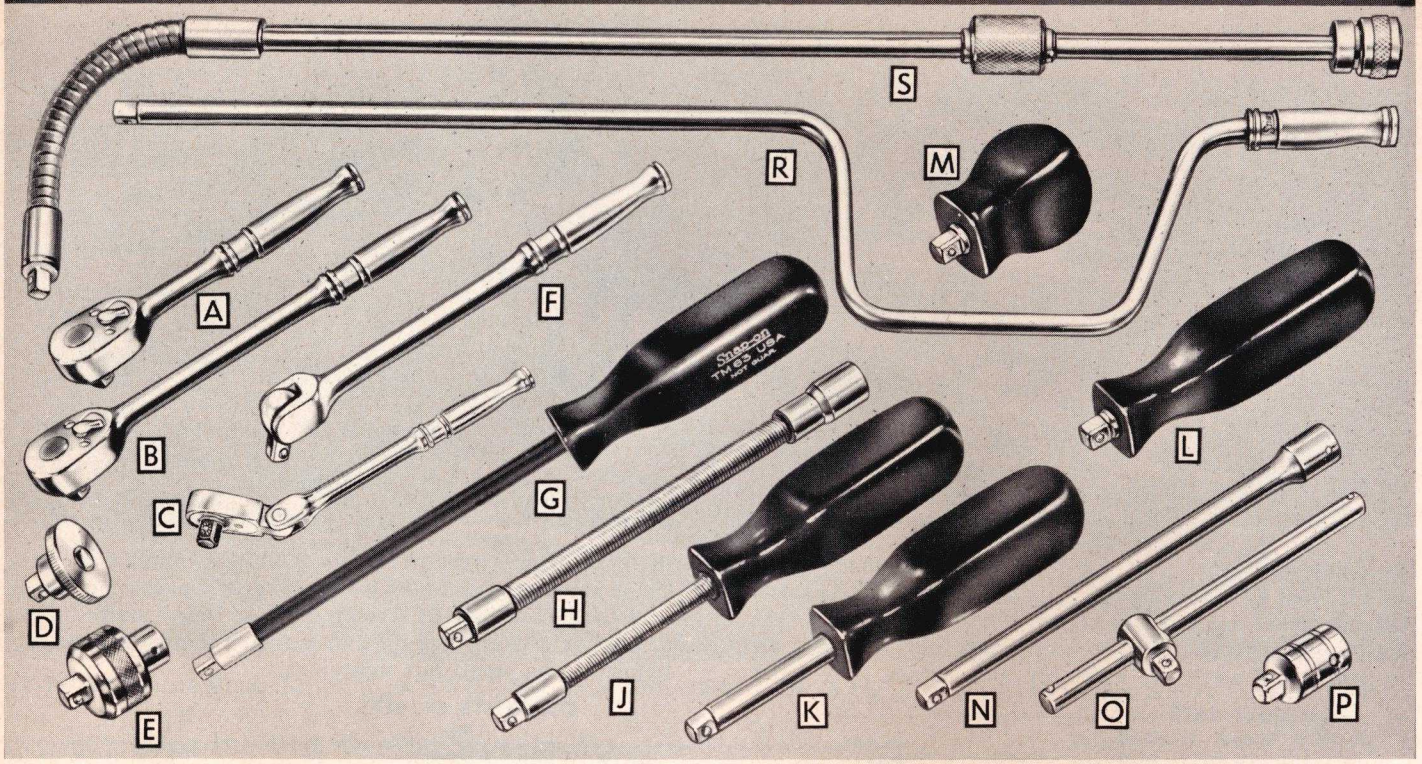
Complete Tool Stock No.	Complete Tool Hex Size	Hex Bit Only	Screws or Roll Pin
TMA-2	1/16"	TMA-2-2	ME3F11
TMA-2½	5/64"	TMA-2.5-2	ME3F11
TMA-3	3/32"	TMA-3-2	ME3F11
TMA-3½	7/64"	TMA-3.5-2	ME3F11
TMA-4	1/8"	TMA-4-2	ME3F11
TMA-4½	9/64"	TMA-4.5-2	ME3F11
TMA-5	5/32"	FA-5A-2	ESD-319
TMA-6	3/16"	FA-6A-2	ESD-303
TMA-7	7/32"	FA-7A-2	ESD-303
TMA-8	¼"	FA-8A-2	ESD-303

Long Hex Bits. For use in the electronics and missile industries. 6" long.

TMAL-2-2 1/16"	TMAL-3.5-2 7/64"
TMAL-2.5-2 5/64"	TMAL-4-2 1/8"
TMAL-3-2 3/32"	TMAL-4.5-2 9/64"

▲ Federal Specs: GGG-W-641D applies to items indicated by symbol ▲.

Snap-on MIDGET WRENCH HANDLES—1/4" SQUARE DRIVE



Snap-on MIDGET HANDLES AND ATTACHMENTS (1/4" Square Drive)

▲ Ⓐ **TM-70B Midget Ratchet Wrench.** The finest ratchet ever made in such a small size . . . It reverses by shifting the thumb lever . . . 20 tooth gear allows working in only an 18° arc . . . useful in close places where handle swing is limited. Overall length is only 4 7/16", head thickness is 3/8".

Ⓑ **TML-70A Long Handled Midget Ratchet Wrench.** For that extra leverage to tighten or loosen that stubborn nut, this Ratchet Wrench is the answer. It also reverses by shifting the thumb lever and has the 20 tooth gear which allows working in an arc of only 18°. Overall length is 6 1/2", head thickness is 3/8" and head width is 27/32".

Ⓒ **TM-711 Flexhead Ratchet.** Reaches those hard-to-get-at nut or screw turning jobs. The ratchet head is held in a semi-flex condition under spring tension and swings to the required working position — gives you plenty of clearance, turning convenience and power.

Ⓓ **TMS-70 Ratchet Spinner.** Speeds up work since it allows the socket or attachment to be turned with the fingers without the need of moving the ratchet handle. Fits in between the ratchet and the socket so nuts may be spun fast by hand. Milled edge provides good grip.

FTL-703 Ratchet Spinner Set, one each for 1/4", 3/8", 1/2" square drive ratchets.

▲ Ⓔ **TM-67A Midget Ratchet Adaptor.** Adds reversible ratcheting speed to any Midget handle . . . also useful for work with 1/4" square drive "Torqometers." Convenient side button reverses the action. 20-tooth action gives new "bite" every 18°. 1 3/8" long, 15/16" O.D.

▲ Ⓕ **TM-10F Midget "Nut Spinner."** A handle providing the utmost utility . . . head is held in a semi-flex condition by a hidden spring and can be used at any position from the handle. Combines a speeder handle for quick nut-turning and an offset handle for bringing them up tight. Overall length of this tool is 6".

Ⓖ **TM-63 Insulated Flex-Shaft Driver.** This tool has a flexible steel shaft with insulated covering which makes it a good unit to be used with the TMA-4 Hex Head Cap Screw Driver, page 31, for servicing the Delco-Remy window-type distributors. The insulation prevents accidentally shorting out the coil while adjusting the points. Tool can be used with any 1/4" drive socket or screw driver for awkward jobs, carburetor work, etc. Tool shaft is 5 7/16" long, overall length 9 3/16".

▲ Ⓗ **TM-61 Midget "Flextension."** Made of best 5/16" diameter flexible cable, this addition to your Midget line of tools will help you reach awkward, hard-to-get-at nuts where a solid handle or extension bar cannot possibly be used. Not intended for breaking loose tight nuts, etc. Length 6".

▲ Ⓙ **TM-62A Flexible Driver.** Has the comfortable, powerful "Contour-Grip" handle. For use on hard-to-reach jobs. Will take all 1/4" Midget attachments. The flexible steel cable is firmly anchored to handle. 6 3/4" long. Not designed for final tightening.

▲ Ⓚ **TM-4AS Plastic Grip Handle.** Has a 1/4" drive end inserted in handle so it can be used as an extension bar. Overall length 5 3/4", shank 2" long.

▲ **TM-4A Plastic Grip Handle.** The same as TM-4AS above but without the 1/4" square drive hole in the handle.

Ⓛ **TM-40A Plastic Grip Handle.** Short shank model, only 4 1/8" overall length.

Ⓜ **TM-40AS Plastic "Stubby" Handle.** Drive projects 3/8" just enough to provide space for socket. Only 2 1/8" long. Excellent for getting into that tight corner with plenty of power.

Ⓝ **Midget Extension Bars.** Lengthen the reach and increase the adaptability of Midget handles. Four popular sizes.

▲ **TM-2 Extension Bar.** 2" overall length.
TMX-4 Extension Bar. 4" overall length.

▲ **TM-60 Extension Bar.** 6" overall length.
TM-140 Extension Bar. 14" overall length.

▲ Ⓞ **TM-5 Midget Sliding Bar.** Combines a tee handle with an offset handle. Sliding head can be used at any position on handle and can be slid back and forth to provide turning room without removing tool from job. Handle length is 4 1/2", head depth is 1 3/16", 1/4" drive.

Ⓟ **ADAPTORS**

A-6 9/32" female, 1/4" male.
A-8 1/4" female, 9/32" male.

▲ **TM-1** 3/8" female, 1/4" male.

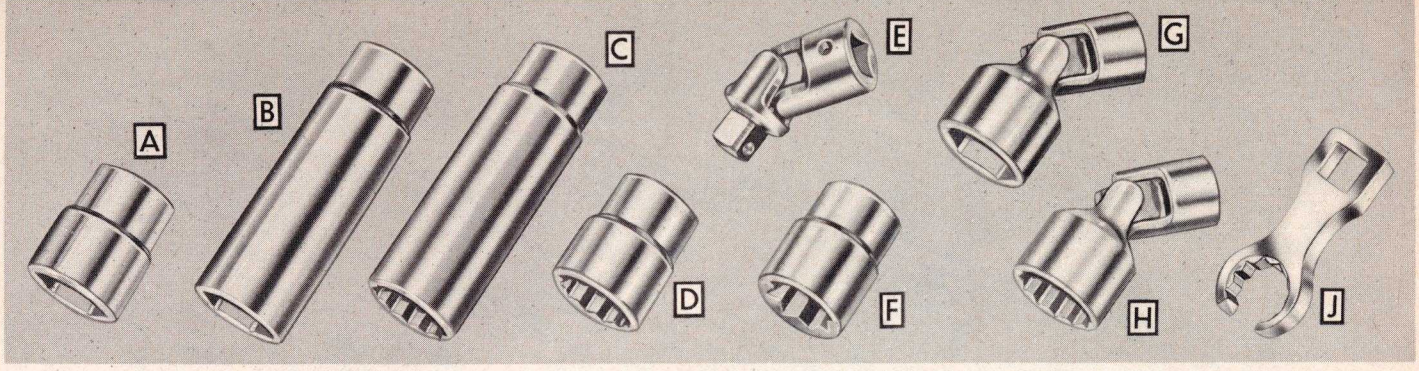
▲ **TA-3** 1/4" female, 3/8" male.

▲ Ⓡ **TMS-4B Midget Speeder.** Time saver anywhere that long reach is needed for breaking loose or firmly seating small nuts or bolts. Spins them off in a hurry. Handle turns freely for easy operation. 16 3/4" long, shank length is 9", radius of handle sweep is 2 7/8".

Ⓢ **TM-65 Flexible Adjusting Wrench.** Handy for adjusting four barrel or dual carburetors. 19 3/4" long, clears obstructions such as air cleaners, etc. Thin, gets into close quarters. Has 1/4" square drive. Knurled knob and drive are connected by a shaft and dual wound wires. Turning knob thus turns drive. Etched mark on knob permits counting of turns made.

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by symbol ▲.

Snap-on MIDGET SOCKETS—1/4" SQUARE DRIVE



The SNAP-ON *"Flank Drive"* hexagon configuration was developed originally to increase the wrench efficiency in turning high tension, 12-point fasteners. It has proved so superior to ordinary 6 and 12 point hex wrenches for use on 6-point hex nuts and bolts that it is now standard design on these SNAP-ON sockets.

▲ FLANK DRIVE SINGLE HEX SOCKETS

Ⓐ Thin, straight walls reach into the tightest working spaces. Precisely machined.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
* 1/8"	TM-04	1/2"	15/64"	7/16"	7/8"
* 5/32"	TM-05	1/2"	17/64"	7/16"	7/8"
* 3/16"	TM- 6	17/32"	19/64"	7/16"	7/8"
* 7/32"	TM- 7	17/32"	11/32"	7/16"	7/8"
1/4"	TM- 8	17/32"	3/8"	7/16"	7/8"
9/32"	TM- 9	17/32"	7/16"	7/16"	7/8"
5/16"	TM-10	17/32"	7/16"	7/16"	7/8"
11/32"	TM-11	17/32"	1/2"	1/2"	7/8"
3/8"	TM-12	17/32"	9/16"	9/16"	7/8"
7/16"	TM-14	17/32"	5/8"	9/16"	7/8"
1/2"	TM-16	17/32"	11/16"	19/32"	7/8"
9/16"	TM-18	7/16"	25/32"	23/32"	7/8"

*Has regular (not Flank Drive) broaching.

112-TM Set. Above 12 single hex sockets.

▲ FLANK DRIVE DEEP DOUBLE HEX SOCKETS

Ⓒ Reach down over protruding bolts . . . double hex broaching aids in turning nuts where wrench handle movement is very limited.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
* 3/16"	STMD- 6	121/32"	19/64"	7/16"	2"
* 7/32"	STMD- 7	121/32"	11/32"	7/16"	2"
1/4"	STMD- 8	121/32"	3/8"	7/16"	2"
9/32"	STMD- 9	121/32"	7/16"	7/16"	2"
5/16"	STMD-10	121/32"	7/16"	7/16"	2"
11/32"	STMD-11	121/32"	1/2"	1/2"	2"
3/8"	STMD-12	121/32"	9/16"	9/16"	2"
7/16"	STMD-14	121/32"	5/8"	9/16"	2"
1/2"	STMD-16	121/32"	11/16"	19/32"	2"
9/16"	STMD-18	119/32"	25/32"	23/32"	2"

*Has regular (not Flank Drive) broaching.

110-STMD Set. Above 10 deep double hex sockets.

Ⓔ **TMU-8 Universal Joint.** One of the biggest time savers you can own . . . works around obstructions to do a fast efficient job. Overall length 115/64", 1/2" O.D., 1/4" square drive.

▲ FLANK DRIVE DEEP SINGLE HEX SOCKETS

Ⓑ Thin straight walls reach down over protruding bolts.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
* 1/8"	STM-04	121/32"	15/64"	7/16"	2"
* 5/32"	STM-05	121/32"	17/64"	7/16"	2"
* 3/16"	STM- 6	121/32"	19/64"	7/16"	2"
* 7/32"	STM- 7	121/32"	11/32"	7/16"	2"
1/4"	STM- 8	121/32"	3/8"	7/16"	2"
9/32"	STM- 9	121/32"	7/16"	7/16"	2"
5/16"	STM-10	121/32"	7/16"	7/16"	2"
11/32"	STM-11	121/32"	1/2"	1/2"	2"
3/8"	STM-12	121/32"	9/16"	1/2"	2"
7/16"	STM-14	121/32"	5/8"	9/16"	2"
1/2"	STM-16	121/32"	11/16"	19/32"	2"
9/16"	STM-18	119/32"	25/32"	23/32"	2"

*Has regular (not Flank Drive) broaching.

112-STM-T Set. Above 12 sockets in KTA-246A metal tray.

112-STM Set. Above set, tools only.

▲ FLANK DRIVE DOUBLE HEX SOCKETS

Ⓓ Thin, straight walls get in close quarters. Hot broached, precisely machined.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
* 3/16"	TMD- 6	17/32"	15/64"	7/16"	7/8"
* 7/32"	TMD- 7	17/32"	17/64"	7/16"	7/8"
1/4"	TMD- 8	17/32"	3/8"	7/16"	7/8"
9/32"	TMD- 9	17/32"	7/16"	7/16"	7/8"
5/16"	TMD-10	17/32"	7/16"	7/16"	7/8"
11/32"	TMD-11	17/32"	1/2"	1/2"	7/8"
3/8"	TMD-12	17/32"	9/16"	9/16"	7/8"
7/16"	TMD-14	17/32"	5/8"	9/16"	7/8"
1/2"	TMD-16	17/32"	11/16"	19/32"	7/8"
9/16"	TMD-18	17/32"	25/32"	23/32"	7/8"

*Has regular (not Flank Drive) broaching.

110TMD Set. Above 10 sockets.

▲ DOUBLE SQUARE SOCKETS

Ⓕ Double broaching gives new grip with only 45° turn.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
1/4"	TM-408	17/32"	15/32"	7/16"	7/8"
5/16"	TM-410	17/32"	9/16"	9/16"	7/8"
3/8"	TM-412	17/32"	21/32"	9/16"	7/8"

103-TM Set. Above 3 sockets.

▲ FLANK DRIVE Ⓖ SINGLE HEX FLEXOCKETS

Designed especially for use on 6 point self-tapping screws used by the automotive trade and body shops. Used with any 1/4" square drive handle.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
* 3/16"	TMUS-61	5/16"	19/64"	15/32"	111/64"
1/4"	TMUS-81	5/16"	3/8"	15/32"	111/64"
5/16"	TMUS-101	11/32"	15/32"	15/32"	1 1/4"
11/32"	TMUS-111	11/32"	1/2"	15/32"	1 9/32"
3/8"	TMUS-121	3/8"	17/32"	15/32"	1 5/16"
7/16"	TMUS-141	3/8"	39/64"	15/32"	1 23/64"
1/2"	TMUS-161	15/32"	43/64"	15/32"	1 29/64"
9/16"	TMUS-181	15/32"	25/32"	15/32"	1 31/64"

*Has regular (not Flank Drive) broaching.

108-TMUS Set. Above 8 sockets.

FLANK DRIVE DOUBLE HEX FLEXOCKETS

Ⓗ Short coupled, work in very close quarters.

Wrench Size	Stock No.	Clears Bolt	O.D. Socket End	O.D. H'dle End	L'gth
* 3/16"	TMU- 61	5/16"	11/32"	15/32"	111/64"
1/4"	TMU- 81	5/16"	3/8"	15/32"	111/64"
9/32"	TMU- 91	11/32"	27/64"	15/32"	17/32"
5/16"	TMU-101	11/32"	15/32"	15/32"	1 1/4"
11/32"	TMU-111	11/32"	1/2"	15/32"	1 9/32"
3/8"	TMU-121	3/8"	17/32"	15/32"	1 5/16"
7/16"	TMU-141	3/8"	39/64"	15/32"	1 23/64"
1/2"	TMU-161	15/32"	43/64"	15/32"	1 29/64"
9/16"	TMU-181	15/32"	25/32"	15/32"	1 31/64"

*Has regular (not Flank Drive) broaching.

109-TMU Set. Above 9 double hex Flexockets.

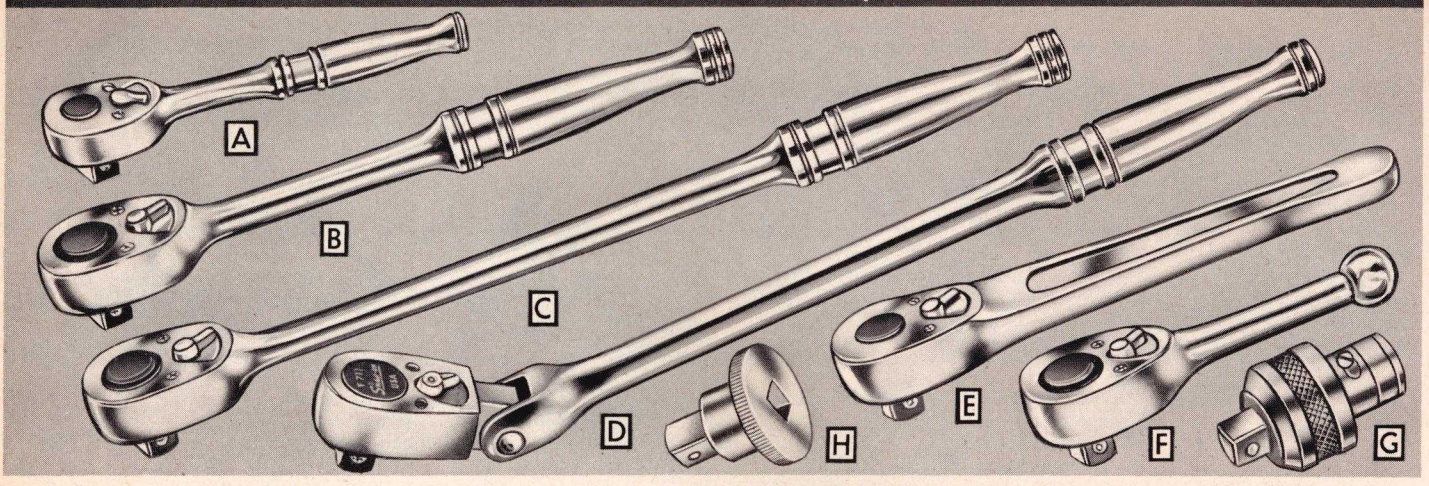
Ⓙ DOUBLE HEX CROWFOOT WRENCHES

Designed for servicing 12 point nuts and bolts on small jet engines. Use with any 1/4" square drive handle or "Torqometer". They add 1" to distance between hand and nut when used with the "Torqometer". Only 1/4" thick.

Wrench Size	Stock No.	Center to Center	Length
1/4"	TMRX- 8	1"	1 5/16"
5/16"	TMRX-10	1"	1 3/8"
3/8"	TMRX-12	1"	1 7/16"

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by symbol ▲.

Snap-on FERRET RATCHETS—3/8" SQUARE DRIVE



You Get All These Superior Features In

Snap-on

"FERRET" WRENCHES

- Easy to hold palm-grips on handles
- Choice of seven different types of ratchets and ratchet adaptor
- Long slim handles for close-in work
- Handle drives have strong spring and friction ball for positive socket grip
- Wide range of socket types and sizes
- 4-way socket grip for faster hook-ups
- Chip-curled hot broached socket walls
- Large variety of special attachments
- High grade alloy steel for strength
- Controlled hardening for long wear
- Chrome plated finish

Behind the fine appearance of these tools is something you can't see — the quality of the fine alloy steel and the electronically controlled heat treating which combine to give SNAP-ON tools extra strength and wear resistance. The result is tough, long wearing sockets and handles that perform far better and cost less in the long run.

"FERRET" RATCHET WRENCHES . . . Built to give years of trouble-free service. Hardened bearings, special alloy steels, controlled heat treatment and precision machining of all parts, insure a free working ratcheting action. The heads and comfortable "Palm-Grip" handles have a heavy chrome plate finish.

Ⓐ **FM-70 "Ferret" Small Head Ratchet.** The extremely small head size lets you get into the tight working areas frequently encountered in modern automotive, electrical, and industrial assemblies. Yet, you can turn a wide range of nut sizes with this ratchet because it accepts all 3/8" square drive sockets and adaptors.
The overall length of this compact ratchet is $4\frac{27}{64}$", and its head width is only $\frac{27}{32}$". The 20-tooth gear action takes a new bite in an 18-degree handle swing.

▲ Ⓑ **F-71D "Ferret" Ratchet.** 30 tooth action allows a new bite every 12° of handle movement. Pawl engages 2 teeth for extra strength. Tool is heavily chrome plated . . . ratchet gear has gun metal finish. Head diameter is 1 1/8", head depth 9/16", $7\frac{9}{16}$" long. A quality tool for men who want the best.

▲ Ⓑ **F-710B "Ferret" Ratchet.** 20 tooth action. 18° handle movement gives a new bite. Tool is heavily chrome plated . . . ratchet gear has gun metal finish. Head diameter is 1 1/8", head depth 9/16", $7\frac{9}{16}$" long. A very popular tool with professional mechanics.

Ⓒ **FL-710 "Ferret" Ratchet.** Has extra long handle, $10\frac{13}{16}$" overall, to give added leverage especially useful with the "Flank-Drive" sockets. Has 20 tooth action which gives a new bite for every 18° of handle movement. Head has 1 1/8" diameter and is 9/16" thick.

Ⓓ **F-711 Ferret Flex Ratchet.** Saves times on jobs close to obstructions, excellent for spark plug work. The 20-tooth ratchet action is reversible and the flexible head has spring to hold it at desired angle for placement on the job. Length is $11\frac{3}{16}$". Head is 9/16" deep and $1\frac{1}{16}$" diam.

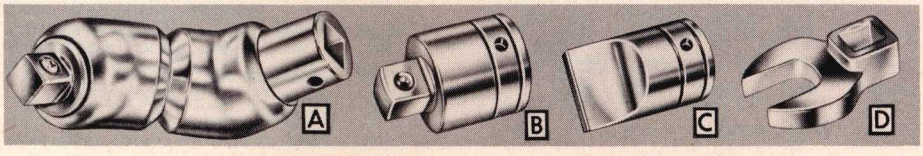
Ⓔ **F-71M Ferret Flat Handle Ratchet.** A fine quality tool at low cost. For many years this type of ratchet handle has been a favorite of many tool users. It has the same smooth working reversible 20-tooth action as other ratchets in the line. The gear drive and bottom head plate have black finish. Head diam. is 1 1/8", depth 9/16", 6 1/8" long.

Ⓕ **F-710K Ferret Short Ratchet.** For use in very restricted access areas. Reversible 20-tooth action gives a new bite with only 18° handle movement. Overall length is only 4". Ball end helps prevent hand slipping. Gear drive has black finish. Head diameter is 1 1/8" and depth 9/16".

Ⓖ **F-67B "Ferret" Ratchet Adaptor.** This useful accessory converts any "Ferret" 3/8" square drive handle into a reverse action ratcheting tool, provides speed where you cannot use a standard type ratchet wrench, convenient side button reverses the ratchet action. Adds versatility to your 3/8" square drive Torqometers. $1\frac{3}{64}$" O.D. 2" long.

Ⓗ **FRS-70 Ratchet Spinner.** Fits in between ratchet and socket so nuts may be spun fast by hand without need of moving ratchet handle. Milled edge provides good grip.

These Accessories Increase Usefulness of Your 3/8" Drive Tool Set



Ⓐ POWER-FLEX ANGLE DRIVE ATTACHMENT

GA-293 Power-Flex Attachment. Turns your 3/8" square drive impact wrench or a standard "Ferret" handle into a very versatile angle drive unit for those hard-to-reach fittings. You can now turn fasteners at any angle from 0° to 90°. Well rounded housings provide a comfortable grip and the sections swivel independent from each other to provide maximum flexibility.
Friction-free ball bearing construction provides maximum efficiency with little power loss. Housing diameter is only $1\frac{7}{16}$", maximum overall length is $4\frac{7}{16}$" — really compact to get into narrow openings. Chrome plated.

▲ HANDLE ADAPTORS

Ⓑ Enable you to interchange Ferret wrenches with Midget and Master units.

TM-1 Adaptor. Converts 3/8" square drive handles to 1/4".

TA-3 Adaptor. Converts 1/4" square drive handles to 3/8".

A-2 Adaptor. Converts 3/8" square drive handles to 1/2".

A-4 Adaptor. Converts 1/2" square drive handles to 3/8".

▲ DRAG LINK SOCKET

Ⓒ **F-22A Drag Link Socket.** A heavy duty screw driver attachment that will prove ideal for adjusting and tightening slotted nuts on steering gear assemblies, shock absorbers, drag links, etc. Blade is $1\frac{1}{16}$" wide and $\frac{7}{64}$" thick. Overall length of tool $1\frac{1}{4}$".

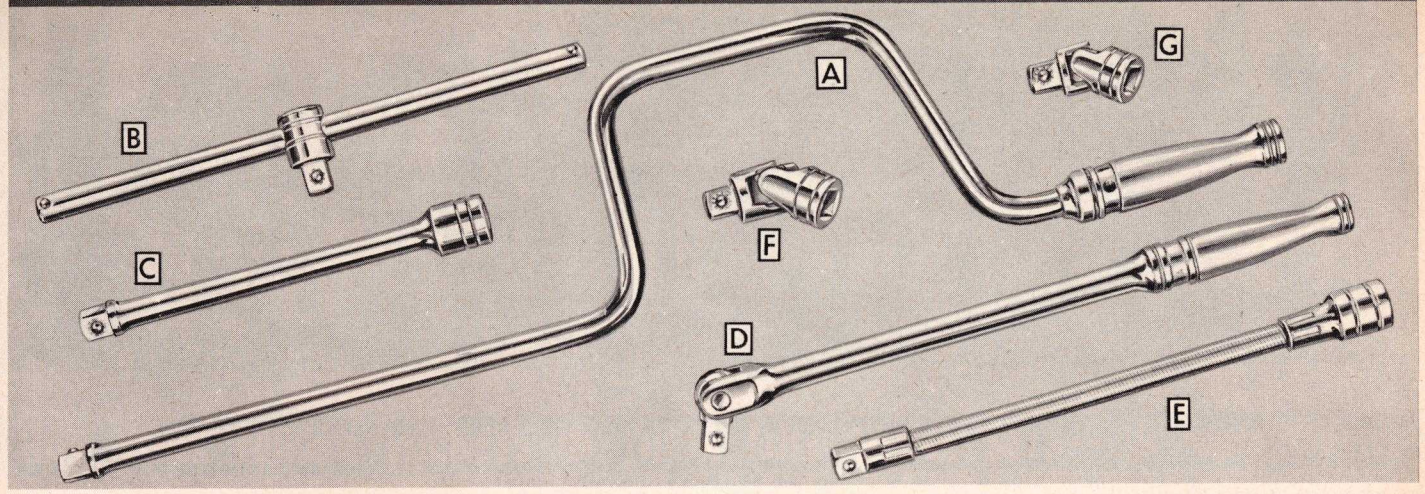
CROWFOOT WRENCHES

Ⓓ Time saving tools on many jobs where clearance problems prevent use of open end wrenches or sockets.

No.	Size	No.	Size
FCO-12	3/8"	FCO-22	$\frac{11}{16}$"
FCO-14	$\frac{7}{16}$"	FCO-24	3/4"
FCO-16	1/2"	FCO-26	$\frac{13}{16}$"
FCO-18	$\frac{9}{16}$"	FCO-28	7/8"
FCO-20	5/8"	FCO-40	$1\frac{1}{4}$"

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Snap-on® FERRET HANDLES — 3/8" SQUARE DRIVE



Ⓐ **"Ferret" Speeders.** It is impossible to beat a speeder type of wrench handle for fast nut running . . . spins them on or off, fast, with two hand operation. "Palm-Grip" handle rotates to provide easy operation. Three models offer the right length shank for your needs. Radius of the sweep is 3¼".

▲ **F-4LA Speeder**...17⅝" long. 8½" Shank.
F-4MA Speeder...24½" long. 15" Shank.
F-4NA Speeder...36½" long. 27" Shank.

▲ Ⓑ **F-5L "Ferret" Sliding Bar.** Head slides to any position . . . a friction ball contacts groove in the handle to center the tool as a tee handle. Handle length 8", diameter 13/32", head depth 1 3/16".

▲ Ⓒ **"Ferret" Extension Bars.** The advantage of havng just the right length extension bar often means getting the job done quicker and with less effort.

FX-1	**Extension Bar**	1½" Long.
FX-2	**Extension Bar**	3" Long.
FX-4	**Extension Bar**	4 9/16" Long.
FX-6	**Extension Bar**	6" Long.
FX-8	**Extension Bar**	8" Long.
FX-11	**Extension Bar**	12" Long.
FX-24	**Extension Bar**	23¼" Long.
FX-36	**Extension Bar**	36" Long.

▲ Ⓓ **F-10LB "Ferret" "Nut Spinner."** Plenty of leverage for pulling nuts up tight or for breaking them loose . . . the swivel head is held in a semi-flex condition at any position by means of an inner spring. 9½" long. Head diam. 1 3/16".

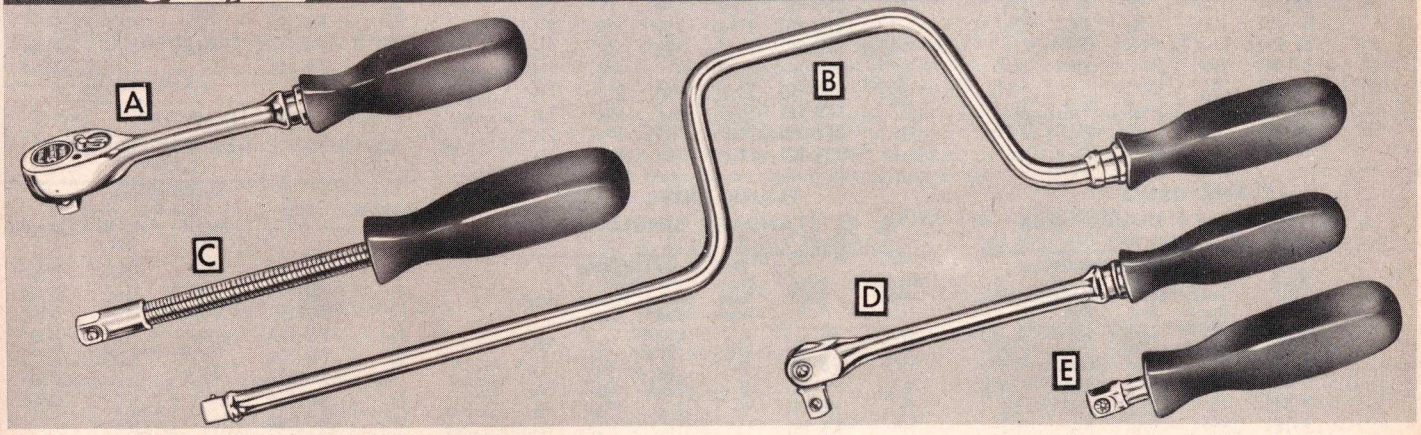
Ⓔ **FX-61 "Ferret" "Flextension."** Acts as a flexible drive between wrench handle and socket and provides an easy method of turning nuts in awkward positions . . . works around corners and over obstructions. The tool consists of a ⅜" diameter flexible steel cable fitted with square drive socket ends. Length is 8". Not intended for breaking nuts loose or similar tough jobs.

Universal Joints. Saves fumbling after those awkward-to-get-at jobs. Tension spring holds tool in a semi-flex state for easy application to the job.

▲ Ⓕ **FU-8A** Universal Joint. ¾" outside diameter, length 1 15/16".

▲ Ⓖ **FU-80A Universal Joint.** 1 1/16" outside diameter, length 1 9/16".

Snap-on® CONTOUR-GRIP HANDLES PROVIDE POWER AND COMFORT



These new satin finish handles, made of tough, tenite plastic are moisture-proof, oil and gas-proof, grease-proof and shock resistant. They minimize danger of short circuits and damaged tool handles. Handle is designed with no-roll square shape, yet edges are rounded to protect your hands. Tapered bottom gives you a firm thumb grip to exert greater power.

Ⓐ **F-710LS "Ferret" Ratchet.** Every 18° handle movement provides a new bite. Has 20 tooth action. Contour-grip handle assures comfort and positive control. Tool is heavily chrome plated. Head diameter is 1⅛", depth 9/16" and 8 5/16" overall. Gear head dust cover helps keep dirt out.

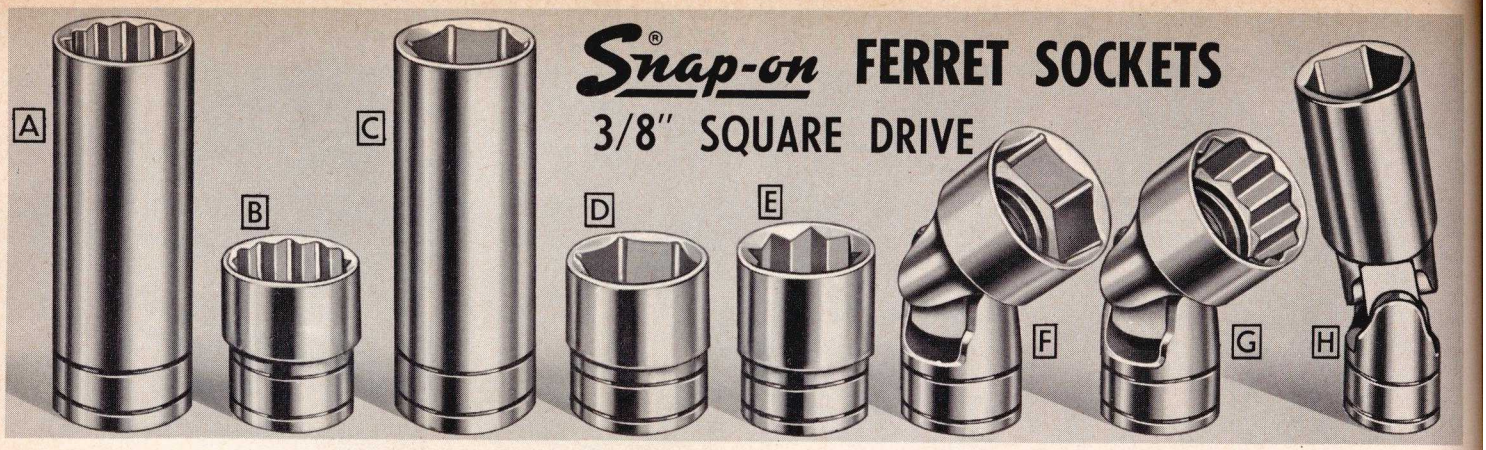
Ⓑ **F-4LS "Ferret" Speeder.** The speedy way for fast nut running, to spin them off or on with two-hand control. Contour plastic handle assures firm grip, comfortable operation. Long enough to reach into that tight place. 18 15/16" long; shank 8½", has 3¼" sweep.

Ⓒ **FX-62A Flexible Driver.** A flexible steel cable allows user to reach around corners or obstructions to service screws or nuts. The square drive end has a spring loaded friction ball which holds attachment in place, other end is firmly anchored in black plastic "Contour-Grip" handle. This Driver is not intended for final tightening or breaking loose stubborn nuts or screws. Overall length is 9⅛".

Ⓓ **F-10LS "Ferret" Nut Spinner.** The swivel head in this fine tool is held in a semi-flex condition at any position. You can pull up nuts tight or loosen them with ease. The contour-grip plastic handle provides the firm grip that you need on this type of tool. Head diameter is 1 3/16", overall length 9¼".

Ⓔ **F-40A "Ferret" "Contour-Grip" Plastic Grip Handle.** Make your "Ferret" set more useful with this shock-proof, moisture, oil, gas and grease-proof plastic handle. Excellent for all electrical work. Will not roll. Extremely comfortable to work with. Gives positive grip. 5⅛" long.

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Snap-on® FERRET SOCKETS
3/8" SQUARE DRIVE

"FERRET" LINE PROVIDES A WIDE RANGE OF TYPES AND SIZES

- **Wide Range of Sizes.** All popular sizes are included in each series of "Ferret" sockets and attachments. These sizes, covering a range of 1/4" to 7/8", make the SNAP-ON "Ferret" Line a versatile combination of units. When you need sockets it pays to buy the best—from SNAP-ON.
- **Flank Drive Socket Design.** This revolutionary wrench configuration designed into the SNAP-ON single and double hexagon sockets listed below increases the strength of the socket and also permits an increase in turning torque while protecting the corners of the nut or bolt head. See page 5 for the complete story on SNAP-ON's patented Flank Drive design.
- **Four Way Socket Grip.** Shallow indentations machined in all four sides of the square drive opening allow faster, more convenient interchanging of units as socket grips securely on any of the four sides.
- **Chip-Curled Broaching.** No rough bottoms inside the socket to collect dirt and grease. The smoothly rounded bottoming is formed during the hot broaching process to give you the finest in socket construction.
- **Chamfered Openings.** The slight chamfer around the edge of the wrench opening aids in guiding the socket onto the nut. All of these sockets are thin wall, chrome plated.

FLANK DRIVE
▲ (A) DEEP DOUBLE HEX

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	SF-081	1 11/16"	25/64"	1 1/16"	2 1/8"
5/16"	SF-101	1 11/16"	29/64"	1 1/16"	2 1/8"
3/8"	SF-121	1 11/16"	1 7/32"	2 1/32"	2 1/8"
7/16"	SF-141	1 11/16"	39/64"	2 1/32"	2 1/8"
1/2"	SF-161	1 11/16"	23/32"	43/64"	2 1/8"
9/16"	SF-181	1 15/16"	25/32"	23/32"	2 3/8"
19/32"	SF-191	1 15/16"	13/16"	3/4"	2 3/8"
5/8"	SF-201	1 15/16"	27/32"	51/64"	2 3/8"
1 1/16"	SF-221	2 3/16"	15/16"	7/8"	2 5/8"
3/4"	SF-241	2 3/16"	1"	61/64"	2 5/8"
13/16"	SF-261	2 5/16"	1 1/16"	1"	2 3/4"
7/8"	SF-281	2 5/16"	1 5/32"	1 3/32"	2 3/4"
15/16"	SF-301	2 5/16"	1 1/4"	1 31/64"	2 3/4"
1"	SF-321	2 5/16"	1 5/16"	1 1/4"	2 3/4"

FLANK DRIVE
▲ (B) STANDARD DOUBLE HEX

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	F-081	7/16"	25/64"	21/32"	29/32"
5/16"	F-101	7/16"	29/64"	21/32"	29/32"
3/8"	F-121	7/16"	1 7/32"	21/32"	29/32"
7/16"	F-141	7/16"	5/8"	21/32"	29/32"
1/2"	F-161	1/2"	23/32"	21/32"	15/16"
9/16"	F-181	1/2"	25/32"	1 1/16"	15/16"
19/32"	F-191	9/16"	13/16"	23/32"	1"
5/8"	F-201	9/16"	27/32"	3/4"	1"
1 1/16"	F-221	5/8"	59/64"	27/32"	1 1/16"
3/4"	F-241	5/8"	1"	29/32"	1 1/16"
13/16"	F-261	1 1/16"	1 5/64"	1"	1 1/8"
7/8"	F-281	1 1/16"	1 5/32"	1 1/16"	1 1/8"
15/16"	F-301	3/4"	1 1/4"	1 3/16"	1 3/16"
1"	F-321	3/4"	1 5/16"	1 3/16"	1 3/16"

FLANK DRIVE
▲ (C) DEEP SINGLE HEX

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	SFS-081	1 11/16"	25/64"	1 1/16"	2 1/8"
5/16"	SFS-101	1 11/16"	29/64"	1 1/16"	2 1/8"
3/8"	SFS-121	1 11/16"	1 7/32"	2 1/32"	2 1/8"
7/16"	SFS-141	1 11/16"	39/64"	2 1/32"	2 1/8"
1/2"	SFS-161	1 11/16"	23/32"	43/64"	2 1/8"
9/16"	SFS-181	1 15/16"	25/32"	23/32"	2 3/8"
19/32"	SFS-191	1 15/16"	13/16"	3/4"	2 3/8"
5/8"	SFS-201	1 15/16"	27/32"	51/64"	2 3/8"
1 1/16"	SFS-221	2 3/16"	1 5/16"	7/8"	2 5/8"
3/4"	SFS-241	2 3/16"	1"	61/64"	2 5/8"
13/16"	SFS-261	2 5/16"	1 1/16"	1"	2 3/4"
7/8"	SFS-281	2 5/16"	1 3/16"	1 3/32"	2 3/4"
15/16"	SFS-301	2 5/16"	1 1/4"	1 31/64"	2 3/4"
1"	SFS-321	2 5/16"	1 5/16"	1 1/4"	2 3/4"

FLANK DRIVE
▲ (D) STANDARD SINGLE HEX

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	FS-081	7/16"	25/64"	21/32"	29/32"
5/16"	FS-101	7/16"	29/64"	21/32"	29/32"
3/8"	FS-121	7/16"	1 7/32"	21/32"	29/32"
7/16"	FS-141	7/16"	5/8"	21/32"	29/32"
1/2"	FS-161	1/2"	23/32"	21/32"	15/16"
9/16"	FS-181	1/2"	25/32"	1 1/16"	15/16"
19/32"	FS-191	9/16"	13/16"	23/32"	1"
5/8"	FS-201	9/16"	27/32"	3/4"	1"
1 1/16"	FS-221	5/8"	59/64"	27/32"	1 1/16"
3/4"	FS-241	5/8"	1"	29/32"	1 1/16"
13/16"	FS-261	1 1/16"	1 5/64"	1"	1 1/8"
7/8"	FS-281	1 1/16"	1 5/32"	1 1/16"	1 1/8"
15/16"	FS-301	3/4"	1 1/4"	1 3/16"	1 3/16"
1"	FS-321	3/4"	1 5/16"	1 3/16"	1 3/16"



SPECIAL SOCKETS FOR "WEATHERHEAD" FITTINGS
3/8" SQUARE DRIVE UNITS

Specially designed to service "WEATHERHEAD" fittings on fuel lines, water lines, oil lines, etc., on vehicles of all types, off-the-road machinery, aircraft, air compressors, etc. Their use to turn or to hold these soft metal fittings helps prevent costly, time-wasting breakage.

Size	Stock No.	Max. O.D.	Overall Length	Size	Stock No.	Max. O.D.	Overall Length
3/8"	FD-120	5/8"	1 1/4"	19/32"	FD-190	1 3/16"	1 1/4"
7/16"	FD-140	13/16"	1 1/4"	21/32"	FD-210	1 3/16"	1 3/8"
15/32"	FD-150	7/8"	1 1/4"	11/16"	FD-220	1 3/16"	1 3/8"
1/2"	FD-160	15/16"	1 1/4"	3/4"	FD-240	1 1/4"	1 3/8"
17/32"	FD-170	1"	1 1/4"	25/32"	FD-250	1 1/4"	1 3/8"
9/16"	FD-180	1 1/16"	1 1/4"				

▲ (E) STANDARD DOUBLE SQUARE

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
1/4"	F-308	3/8"	31/64"	21/32"	27/32"
5/16"	F-310	3/8"	9/16"	21/32"	27/32"
3/8"	F-312	15/32"	21/32"	1 1/16"	15/16"
7/16"	F-314	1 7/32"	25/32"	1 1/16"	1"
1/2"	F-316	1 7/32"	7/8"	25/32"	1"
9/16"	F-318	1 9/32"	1"	29/32"	1 1/8"
5/8"	F-320	1 9/32"	1 1/16"	31/32"	1 1/8"

FLANK DRIVE
(F) SINGLE HEX "FLEXOCKETS"

Wrench Size	Stock No.	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
5/16"	FS-10A	1 5/32"	1 1/16"	1 37/64"
3/8"	FS-12A	1 7/32"	1 1/16"	1 37/64"
7/16"	FS-14A	5/8"	1 1/16"	1 37/64"
1/2"	FS-16A	23/32"	1 1/16"	1 21/32"
9/16"	FS-18A	25/32"	1 1/16"	1 11/16"
5/8"	FS-20A	7/8"	1 1/16"	1 3/4"
1 1/16"	FS-22	31/32"	3/4"	1 15/16"
3/4"	FS-24	1"	3/4"	1 63/64"

FLANK DRIVE
▲ (G) DOUBLE HEX "FLEXOCKETS"

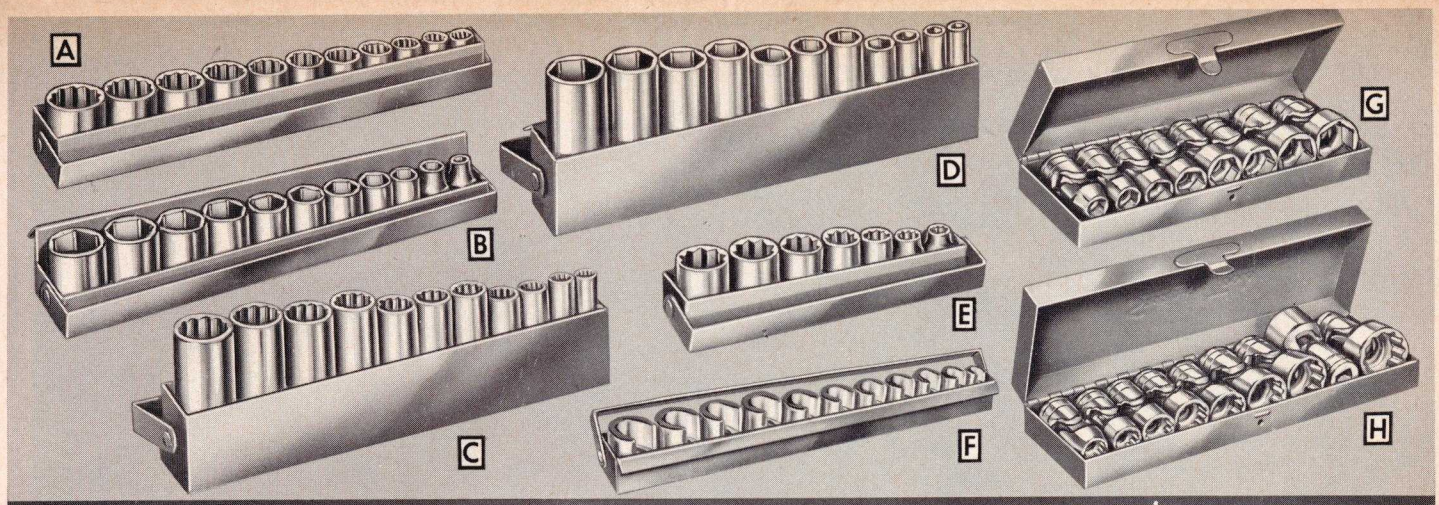
Wrench Size	Stock No.	Outside Diameter: Socket End	Outside Diameter: Handle End	Length
3/8"	FU-12A	9/16"	1 1/16"	1 37/64"
7/16"	FU-14A	5/8"	1 1/16"	1 37/64"
1/2"	FU-16A	23/32"	1 1/16"	1 21/32"
9/16"	FU-18A	25/32"	1 1/16"	1 11/16"
5/8"	FU-20A	7/8"	1 1/16"	1 3/4"
1 1/16"	FU-22A	31/32"	3/4"	1 15/16"
3/4"	FU-24A	1"	3/4"	1 31/32"
13/16"	FU-26A	1 1/8"	3/4"	2"
7/8"	FU-28A	1 5/32"	3/4"	2"

FLANK DRIVE
(H) BOLT CLEARANCE "FLEXOCKETS"

These deep type, single hex Flexockets are designed for use where standard length Flexockets cannot be used due to lack of sufficient bolt clearance depth. This bolt clearance is found on caster-camber fittings, manifold bolts and other similar jobs. Will give long, trouble-free service. Have attractive chrome plated finish.

Wrench Size	Stock No.	Outside Diameter: Socket End	Outside Diameter: Handle End	Bolt Clearance Depth	Length
7/16"	FSU-14	5/8"	1 1/16"	1"	2 3/8"
1/2"	FSU-16	23/32"	1 1/16"	1"	2 3/8"
9/16"	FSU-18	25/32"	1 1/16"	1"	2 3/8"
5/8"	FSU-20	27/32"	1 1/16"	1"	2 3/8"
1 1/16"	FSU-22	29/32"	3/4"	1"	2 3/8"

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by symbol ▲.



BUY YOUR FERRET SOCKETS IN THESE FULL-RANGE SETS — 3/8" SQUARE DRIVE

3/8 DRIVE

Ⓐ **211-F-T Double Hex Socket Set.** 11 sockets F-081 to F-281 (except F-191), in KTA-232B metal tray.

211-F Set. Above set without tray.

Ⓑ **211-FS-T Standard Single Hex Socket Set.** Contains 11 standard single hex sockets FS-081 to FS-281 (except FS-191), in KTA-232B metal tray. Red enamel finish on tray.

211-FS Set. Above set without tray.

KTA-232B Metal Tray.

Ⓒ **211-SF-T Deep Double Hex Socket Set.** 11 sockets SF-081 to SF-281 (except SF-191), in KTA-231B metal tray. Tray has red enamel finish.

211-SF Set. Above set without tray.

Ⓓ **211-SFS-T Deep Single Hex Socket Set.** Contains 11 deep single hex sockets SFS-081 to SFS-281 (except SFS-191), in KTA-231B metal tray.

211-SFS Set. Above set without tray.

KTA-231B Metal Tray.

Ⓔ **207-F-T Square Socket Set.** 7 square sockets F-308 to F-320, in KTA-233 metal tray. Tray has red enamel finish.

207-F Set. Above set without tray.

KTA-233 Metal Tray.

Ⓕ **211-FD-T Socket Set for WEATHERHEAD Fittings.** 11 sockets, FD-120 through FD-250, in KTA-248 red enameled metal tray.

Ⓖ **208-FS-B Single Hex Flexocket Set.** Eight Flexockets, FS-10A to FS-24 in KRA-233A metal box (6 7/16" x 2 3/8" x 1 3/16").

208-FS Set. Eight Flexockets FS-10A to FS-24 in plastic tray.

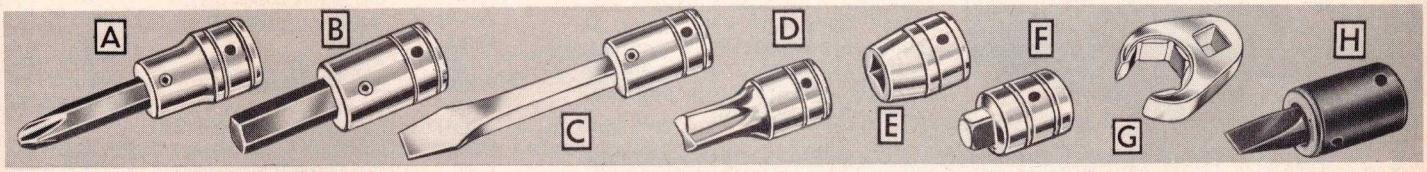
206A-FS Single Hex Flexocket Set. Contains 6 Flexockets, FS-14A to FS-24.

Ⓗ **209-FU-B Double Hex Flexocket Set.** 9 Flexockets, FU-12A to FU-28A in KRA-229 metal box (7 9/16" x 2 3/8" x 1 3/16").

209-FU Set. Above set without box.

206-FU Double Hex Flexocket Set. Contains 6 Flexockets, FU-14A to FU-24A. Packed in a plastic tray.

205-FSU Bolt Clearance Flexocket Set. 5 sockets, FSU-14 through FSU-22.



▲ Ⓐ PHILLIPS SCREWS DRIVERS

Complete Tool			Bit	Roll-Pin
Bit Size	Stock No.	Length	Stock No.	Stock No.
2	FP-22A	2 1/16"	FP-22A-2	ESD-303
3	FP-32A	2 5/16"	FP-32A-2	ESD-300
4	FP-41B	1 11/16"	FP-41B-2	ESD-304
4	FP-42B	2 7/16"	FP-42B-2	ESD-304

▲ Ⓑ HEX HEAD SCREW DRIVERS

Complete Tool			Bit	Roll-Pin
Hex Size	Stock No.	Length	Stock No.	Stock No.
1/8"	FA-4A	2 3/32"	TMA-4-2	ME-3F-11
9/64"	FA-4.5A	2 3/32"	TMA-4.5-2	ME-3F-11
5/32"	FA-5A	2 1/16"	FA-5A-2	ESD-322
3/16"	FA-6A	2 1/16"	FA-6A-2	ESD-303
3/16"	FAL-6	3 3/32"	FAL-6-2	ESD-303
7/32"	FA-7A	2 1/16"	FA-7A-2	ESD-303
1/4"	FA-8A	2 1/16"	FA-8A-2	ESD-300
1/4"	FAL-8	3 3/32"	FAL-8-2	ESD-300
5/16"	FA-10B	2 1/16"	FA-10B-2	ESD-304
3/8"	FA-12A	2 1/16"	FA-12A-2	ESD-304

▲ Ⓒ STANDARD SCREW DRIVERS

Complete Tool			Bit	Roll-Pin
Blade Size	Stock No.	Length	Stock No.	Stock No.
1/4" x 1/32"	F-23D	3"	F-23D-2	ESD-304
5/16" x 3/64"	F-25D	3"	F-25D-2	ESD-304
3/8" x 1/16"	F-31D	3 7/16"	F-31D-2	ESD-304

Ⓓ CLUTCH TYPE SCREW DRIVERS

Handle clutch-type screws, also known as "butterfly" or "figure-8" screws, which are becoming increasingly popular for production assembly work of various kinds. Both are one piece units made short to handle work in close quarters. Machined from high quality alloy steel and then carefully heat treated to give exceptional strength and toughness to the tips. Overall length 1 3/4".

F-29A Clutch Screw Driver. Bit diameter 3/8", fits 3/8" and 13/32" screws.

F-30 Clutch Screw Driver. Bit diameter 19/64".

PIPE PLUG SOCKETS

These single square sockets are designed for use on the pipe plugs used on many current model cars. 3/8" sq. drive. 1" long.

Ⓔ **PP-409 Socket.** 9/32" square opening.

Ⓔ **PP-410 Socket.** 5/16" square opening.

Ⓔ **PP-412 Socket.** 3/8" square opening.

Ⓕ **PPM-410 Pipe Plug Socket.** This socket has a 5/16" square to fit the openings in 3/8" pipe plug fittings. 1 1/16" long, 3/8" square drive.

Ⓕ **PPM-411 Pipe Plug Socket.** 11/32" square wrench plug and 3/8" square drive. For car transmissions and differential plugs. Also used on Mack Trucks, small V-8 International Harvester engines, White Motors and Cummins Diesel blocks.

Ⓖ CROWFOOT WRENCHES FLANK DRIVE-SINGLE HEX

Speed servicing soft metal flare nut fittings on fuel, transmission and cooler lines, etc., in automotive, aircraft and aero-space industries, etc. Prevents damage to the soft metal fittings.

Wrench Size	Stock Number	Head Thickness	Head Width	Overall Length
3/8"	FRH-120S	3/8"	7/8"	1 11/32"
7/16"	FRH-140S	3/8"	29/32"	1 13/32"
1/2"	FRH-160S	3/8"	1"	1 7/16"
9/16"	FRH-180S	7/16"	1 1/8"	1 5/8"
5/8"	FRH-200S	7/16"	1 1/8"	1 5/8"
11/16"	FRH-220S	1/2"	1 5/16"	1 25/32"
3/4"	FRH-240S	1/2"	1 5/16"	1 25/32"

Ⓔ **207S-FRH Set.** Consists of one each of above single hex flank drive crowfoot wrenches.

Ⓗ IMPACT SCREW DRIVERS

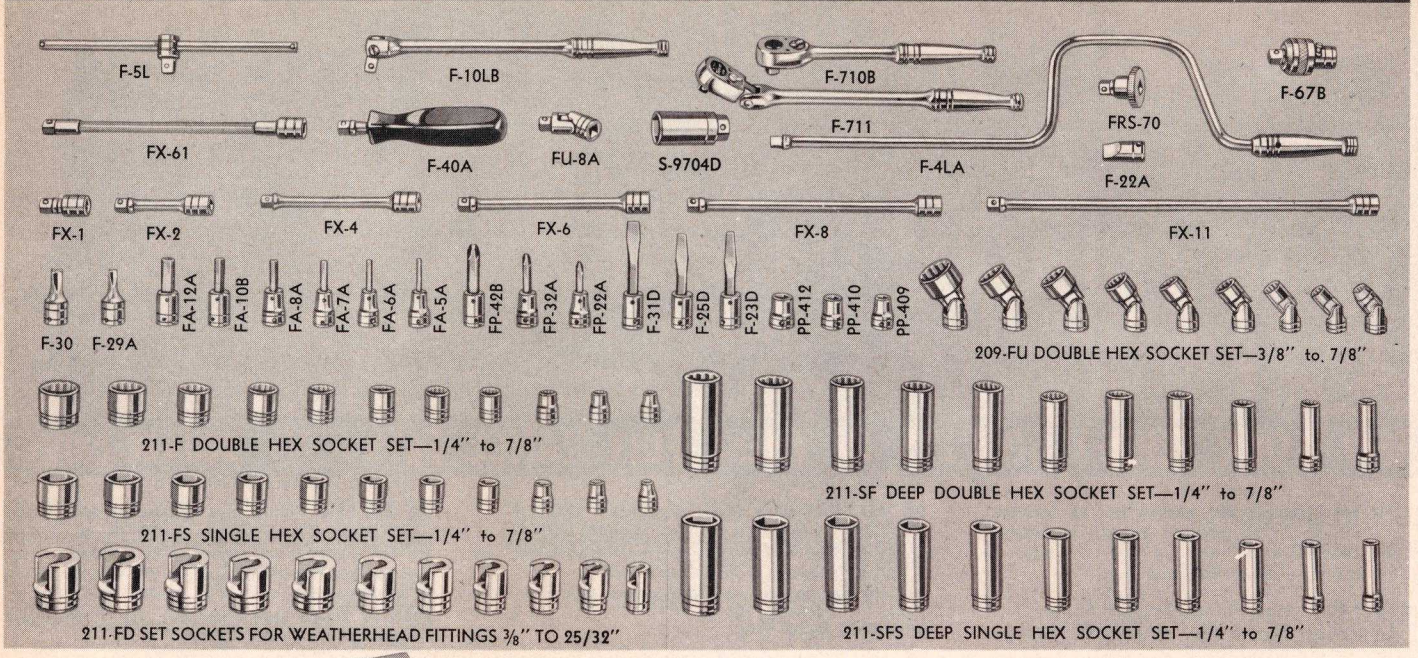
Recommended for use on the "Ferret" Impak Driver shown on page 39.

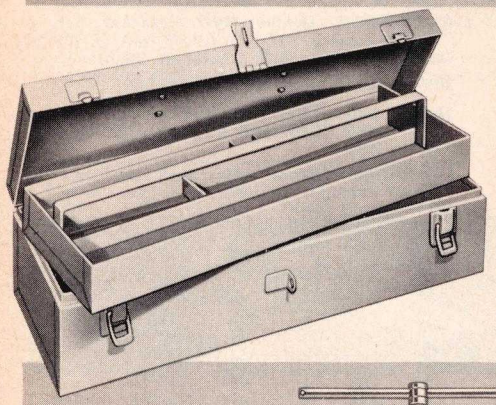
By limiting the distance of the impact travel the short bits in these drivers deliver maximum turning power at the screw head slot and lessen the possibilities of bit breakage. Don't use standard drives for Impact work.

Blade Width	Stock No.	Part Numbers	
		Bit	Pin
1/4"	PF-23	PF-23-2	ESD-300
5/16"	PF-25A	PF-25A-2	ESD-304
3/8"	PF-31A	PF-31A-2	ESD-304

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by symbol ▲.

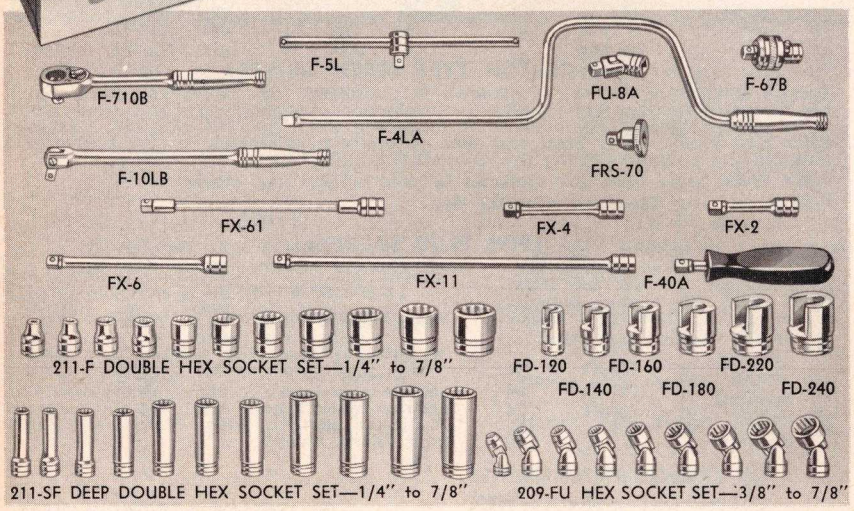
Snap-on FERRET SETS HELP YOU WORK FASTER . . . EASIER





SPECIAL METAL BOX FOR THESE TWO SETS

KRA-250 Tool Box. Complete with tote tray. The tray is partitioned to provide convenient separation of sockets, etc., and has a full length top handle. The box is 18½" long, 6⅝" wide and 4½" deep. It has a suitcase-type handle, sturdy hinges, two spring clasps and hasp for padlock. Red enamel finish.



THERE'S NOTHING BUSIER THAN A GOOD FERRET SET

When you buy a SNAP-ON Ferret set you own the best tools of their kind. They are quality throughout—quality that keeps busy tools in good working condition long after "cheapies" have hit the scrap heap. Behind their fine appearance is something you can't see—the quality of fine alloy steel, the close tolerances of all machining operations and electronically controlled heat treatment. The result is lightweight, tough, long lasting sockets and handles that perform better and cost less in the long run.

Ⓐ **299-F-B Complete 99-Piece Ferret Set. (Top of Page.)** Contents listed at right, complete with KRA-250 Tool Box.

299-F Set. Above set without the Tool Box.

Ⓑ **250-F-B Utility 50-Piece Ferret Set. (Center of Page.)** Contents listed at right, complete with KRA-250 Tool Box.

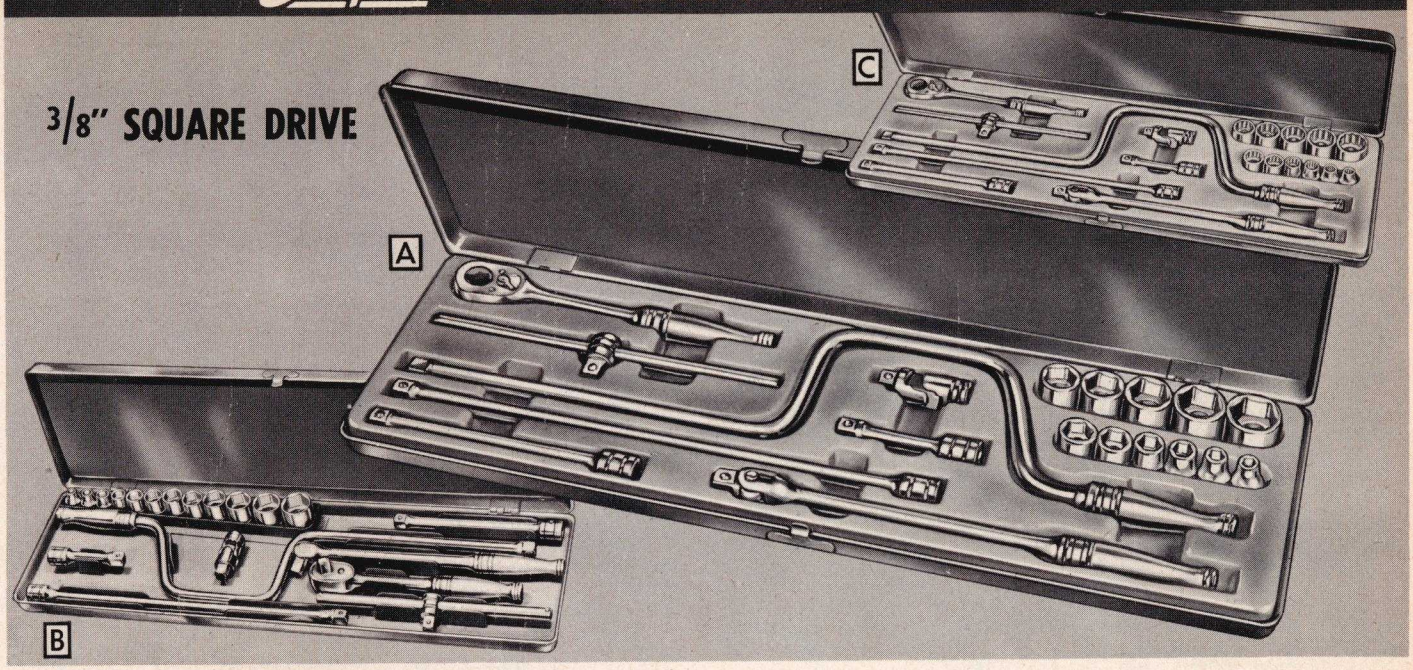
250-F Set. Above set without the tool box.

CONTENTS OF SETS

Stock No.	Description	299-F Set	250-F Set
209-FU	Hex Flexocket Set	X	X
211-SF	Deep Double Hex Socket Set	X	X
211-SFS	Deep Single Hex Socket Set	X	....
211-F	Double Hex Socket Set	X	X
211-FS	Single Hex Socket Set	X	....
F-4LA	Speeder	X	X
F-10LB	Nut Spinner	X	X
F-22A	Drag Link Socket	X	....
F-23D	¼" Screw Driver	X	....
F-25D	5/16" Screw Driver	X	....
F-29A	⅜" Clutch Screw Driver	X	....
F-30	19/64" Clutch Screw Driver	X	....
F-31D	⅜" Screw Driver	X	....
F-40A	Plastic Handle	X	X
F-5L	Slide Bar	X	X
F-67B	Ratchet Adaptor	X	X
F-710B	Ratchet	X	X
F-711	Flexible Ratchet	X	....
FA-5A	5/32" Hex Head Wrench	X	....
FA-6A	3/16" Hex Head Wrench	X	....
FA-7A	7/32" Hex Head Wrench	X	....
FA-8A	¼" Hex Head Wrench	X	....
FA-10B	5/16" Hex Head Wrench	X	....
FA-12A	⅜" Hex Head Wrench	X	....
FD-120	⅜" Socket for Weatherhead	X	X
FD-140	7/16" Socket for Weatherhead	X	X
FD-150	15/32" Socket for Weatherhead	X	....
FD-160	½" Socket for Weatherhead	X	X
FD-170	17/32" Socket for Weatherhead	X	....
FD-180	9/16" Socket for Weatherhead	X	X
FD-190	19/32" Socket for Weatherhead	X	....
FD-210	21/32" Socket for Weatherhead	X	....
FD-220	11/16" Socket for Weatherhead	X	X
FD-240	¾" Socket for Weatherhead	X	X
FD-250	25/32" Socket for Weatherhead	X	....
FP-22A	No. 2 Phillips Screw Driver	X	....
FP-32A	No. 3 Phillips Screw Driver	X	....
FP-42B	No. 4 Phillips Screw Driver	X	....
FRS-70	Ratchet Spinner	X	X
FU-8A	Universal Joint	X	X
FX-1	1½" Extension	X	....
FX-2	3" Extension	X	X
FX-4	4" Extension	X	X
FX-6	6" Extension	X	X
FX-8	8" Extension	X	....
FX-11	12" Extension	X	X
FX-61	Flextension	X	X
PP-409	9/32" Pipe Plug Socket	X	....
PP-410	5/16" Pipe Plug Socket	X	....
PP-412	⅜" Pipe Plug Socket	X	....
S-9704D	Spark Plug Socket	X	....

Snap-on® FLANK DRIVE FERRET WRENCH SETS

3/8" SQUARE DRIVE



Many years ago when we first introduced the 3/8" square drive series of socket wrenches and handles into the SNAP-ON family of fine tools we named them "Ferret" wrenches because like the Ferret, they were very strong, yet very slim and could be used in tight spots other wrenches couldn't reach. Today SNAP-ON "Ferret" socket wrenches and attachments are made better than ever and are the choice of better mechanics everywhere. Here is a popular set available in your choice of eleven single or double hexagon Flank Drive sockets and a fine basic selection of wrench handles, packaged in a molded plastic tray. You also have a choice between a metal case designed to hold the molded plastic tool tray or a metal case with welded metal partitions. Both are shown in the above illustrations and each has a baked-on red enamel finish and measures 19¼" x 5⅝" x 1¼". Spring clip-type fastener secures case.

SINGLE HEX SETS

Ⓐ **219A-FP-B "Ferret" 3/8" Sq. Drive Set.** Consisting of the following in a molded plastic tool tray and the KRA-284 Metal Cases.

Handles: F-710B Ratchet; F-4LA Speeder; F-5L Sliding Bar; F-10LB "Nut Spinner"; FX-2, FX-6, FX-11 Extension Bars and FU-8A Universal Joint.

Sockets: Set 211-FS consisting of 11 single hex sockets FS-081 to FS-281, except FS-191, listed on page 36.

219A-FP "Ferret" Set. Above set in plastic tray, but same tools as in the above without the KRA-284 Case.

Ⓑ **219A-F-B Set.** Same tools as in above sets, in KRA-281 Metal Case (with metal partitions).

DOUBLE HEX SETS

Ⓒ **219-FP-B "Ferret" 3/8" Sq. Drive Set.** Consisting of the following in a molded plastic tool tray and the KRA-284 Metal Case:

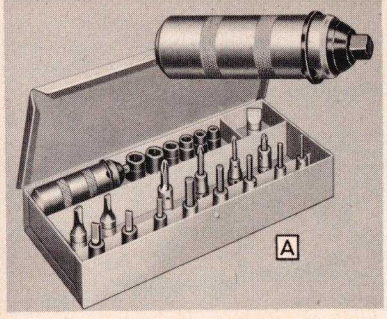
Handles: F-710B Ratchet; F-4LA Speeder; F-5L Sliding Bar; F-10LB "Nut Spinner"; FX-2, FX-6, FX-11 Extension Bars and FU-8A Universal Joint.

Sockets: Eleven Double Hex Sockets—F-081 to F-281 (except F-191) on page 36.

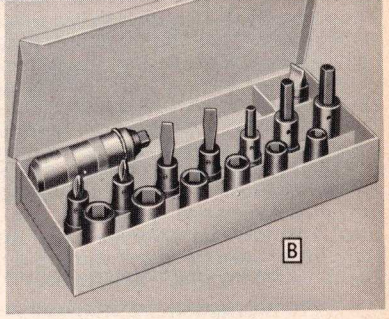
219-FP "Ferret" Set. Above set in plastic tray but without the KRA-284 Box.

219-F-B Set. Same tools as in the above sets, in KRA-281 Metal Case (with metal partitions).

Snap-on® IMPAK DRIVERS AND SETS IN 3/8" AND 1/2" SQUARE DRIVES



These SNAP-ON Impak Driver Sets are extremely useful for handling the tough, ornery jobs. They consist of the popular Impak Driver and an assortment of special impact-type sockets and drivers. In use, the bit or socket is positioned on the screw or nut . . . the Impak Driver is given a short twist to set the working cam and return spring, and the anvil end is then struck a sharp blow with a hammer.
The Driver can be set to deliver its rotary impact blow in either direction, and its powerful action will loosen screws and bolts even when they are wedged or rusted tight or will tighten them so they stay tight. You get greater safety, too, as there is less danger of twisting off bolt heads or screws by this method. Instructions are stamped on the tool.



Ⓐ **5022-PIT-B "Ferret" 3/8" Sq. Drive Impak Driver Set.** Consists of the following units, in KRA-120 Metal Box. Box has red enamel finish.

Stock No.	Description	Stock No.	Description	Stock No.	Description
▲PIT-12	Impak Driver	PF-25A	5/16" Std. Scr. Dr.	FA-7A	7/32" Hex Hd. Dr.
PF-100	5/16" Hex Soc.	PF-31A	3/8" Std. Scr. Dr.	FA-8A	1/4" Hex Hd. Dr.
PF-120	3/8" Hex Soc.	F-22A	1 1/16" H.D. Scr. Dr.	FA-10B	5/16" Hex Hd. Dr.
PF-140	7/16" Hex Soc.	FP-22A	No. 2 Phillips Dr.	FA-12A	3/8" Hex Hd. Dr.
PF-160	1/2" Hex Soc.	FP-32A	No. 3 Phillips Dr.	F-29A	Clutch Hd. Dr.
PF-180	9/16" Hex Soc.	FP-41B	No. 4 Phillips Dr.	F-30	Clutch Hd. Dr.
PF-200	5/8" Hex Soc.	FP-42B	No. 4 Phillips Dr.	KRA-120	Metal Box
PF-23	1/4" Std. Scr. Dr.	FA-6A	3/16" Hex Head Dr.		

5022-PIT Set. Above set without the metal box.

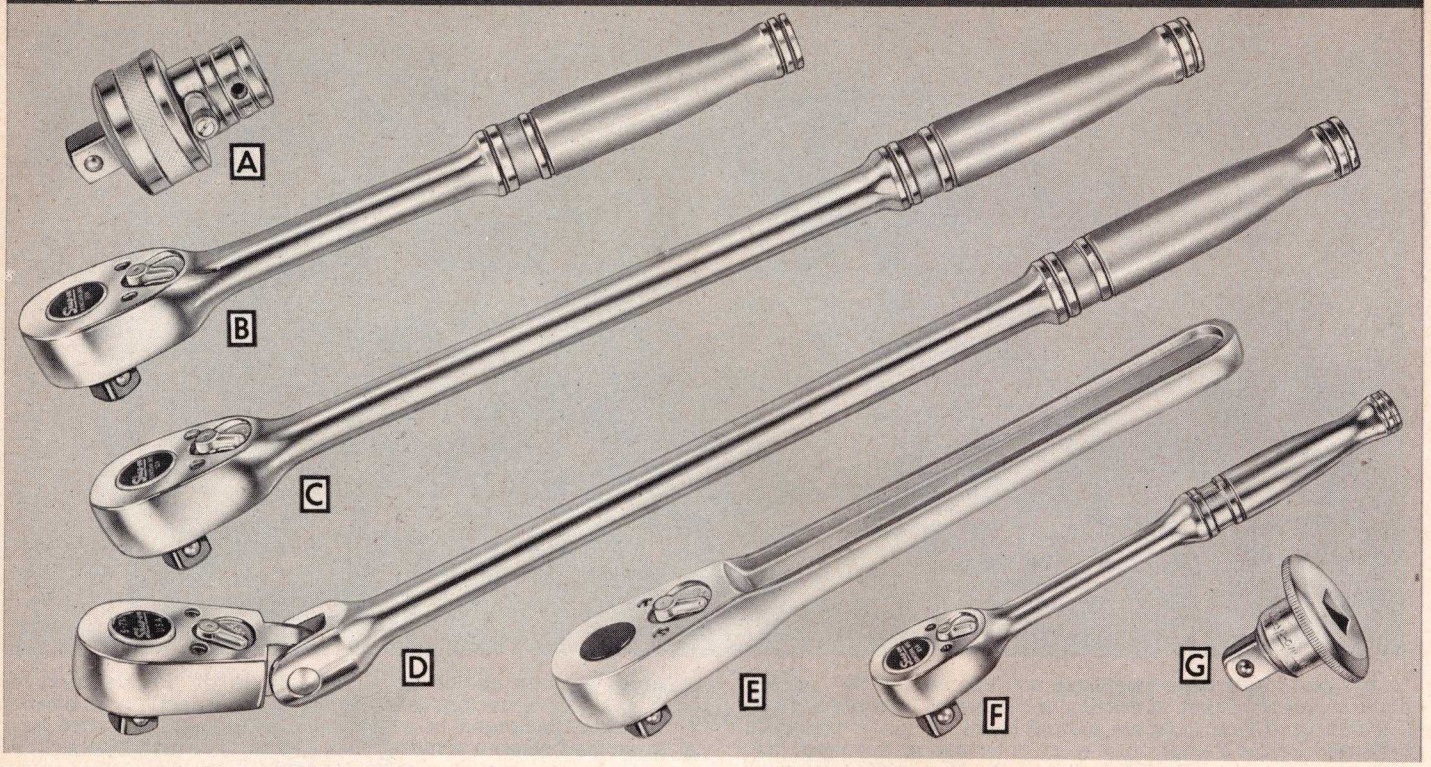
Ⓑ **316-PIT-B Master 1/2" Sq. Drive Impak Driver Set.** Consists of the following units, in KRA-120 Metal Box. Box has red enamel finish.

Stock No.	Description	Stock No.	Description	Stock No.	Description
▲PIT-16	Impak Driver	IM-260	13/16" Hex Soc.	PSP-42A	No. 4 Phillips Dr.
IM-160	1/2" Hex Soc.	A-26	3/4" H.D. Scr. Dr.	SA-12A	3/8" Hex Hd. Dr.
IM-180	9/16" Hex Soc.	PSW-284A	7/16" Std. Scr. Dr.	SA-14A	7/16" Hex Hd. Dr.
IM-200	5/8" Hex Soc.	PSW-325A	1/2" Std. Scr. Dr.	SA-16A	1/2" Hex Hd. Dr.
IM-220	1 1/16" Hex Soc.	PSP-32A	No. 3 Phillips Dr.	SA-18A	9/16" Hex Hd. Dr.
IM-240	3/4" Hex Soc.			KRA-120	Metal Box

316 PIT. Same set as above without metal box.

▲ **Federal Specs: GGG-W-641D, type 3, class 5, applies to Impak Drivers PIT-12 and PIT-16.**

Snap-on MASTER RATCHETS — ½" SQUARE DRIVE



MASTER RATCHETS (½" Square Drive)

SNAP-ON ratchet wrenches are used and preferred by professional mechanics and engineers throughout industry. In every way they are fine examples of the precise engineering, machining, heat treating and finishing that characterizes all SNAP-ON products. The reverse ratcheting mechanisms have proved their unbeatable construction through many years of rugged use. Frequent cleaning and oiling will keep the action working freely. These tools are made of high grade alloy steel, heat treated to give years of service, chrome plated for lasting appearance.

▲ Ⓐ **67C Ratchet Adaptor.** This ratcheting adaptor converts any combination of handle, extension and socket into a ratcheting tool. Convenient side button reverses action. This unit can be used on many jobs where other "Master" ratchets cannot operate. Also extremely useful in combination with ½" sq. drive "Torqometers." 2 9/16" long, 1 5/8" outside diameter.

▲ Ⓑ **SL-710 Master "Supreme" Ratchet.** The favorite ½" square drive ratchet with thousands of mechanics who have made it the basic wrench handle in their tool kit. It has a 32-tooth reversible ratchet action for efficient operation where handle movement is limited. Gets a new bite with only a 12-degree handle swing. Overall length is 9¾" . . . just right to work without clearance problems on almost any job and afford all the turning power needed to get the job done. Head is 1 5/8" wide, 25/32" thick.

▲ Ⓑ **S-710 Master Ratchet.** Same tool as above but with a 24-tooth gear action. Works with only a 15-degree handle swing.

▲ Ⓒ **SL-715 Master "Supreme" Ratchet.** Identical to the SL-710 Model above, but with an overall length of 15". Gives you the benefit of a longer reach to service hard-to-get-at jobs and increased leverage for the tough ones. Has the 32-tooth reversible gear action.

▲ Ⓒ **S-715 Master Ratchet.** Same as the 15" long ratchet SL-715 above but with a 24-tooth reversible gear action.

Ⓓ **S-711A Flex Ratchet.** Saves time on jobs close to obstructions, excellent for spark plug work. The 24-tooth ratchet action is reversible and the flexible head has spring to hold it at desired angle for placement on the job. Length is 17¼". Head is 25/32" deep and 1 5/8" diam. You will find this tool a time saver on many jobs where other tools are inefficient.

▲ Ⓔ **S-71 Master Ratchet.** An old time favorite with many tools users. Has 24 tooth ratchet action, works with only a 15-degree handle swing. Pawls, gear drive and plate have gunmetal finish and the handle and head unit is chrome plated. Overall length is 9¾". Head width is 1 5/8", head depth ¾". This model does not have the gear dust cap.

Ⓕ **SF-710 Compact Master Ratchet.** Gives you maximum efficiency in tight work areas. Only 7 9/16" long and with a head only 1⅛" wide and 9/16" thick this new ½" square drive ratchet gets into those difficult areas to work where standard ½" drive ratchets cannot be used. Twenty-tooth reversible ratchet action takes a new bite with only an 18-degree handle swing.

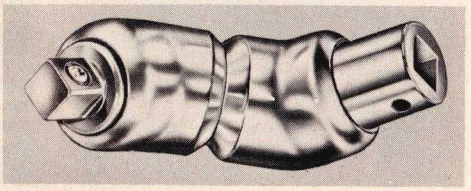
Ⓖ **LRS-70 Ratchet Spinner.** Fits in between the ratchet and the socket so nuts may be spun fast by hand without the need of moving the ratchet handle. Milled edge provides good grip.

Snap-on

Features That Give You Most Value For Your Money

- **Palm-Grip design handles give a secure hand grip and better appearance.**
- **You have a choice of eight different SNAP-ON "Master" ratchet handles and ratchet adaptor.**
- **SNAP-ON Master Ratchets with the exception of S-71 have a dust cover plate which protects the mechanism from entrance of dirt that could cause excess wear.**
- **High grade alloy steel only is used to produce these SNAP-ON wrenches.**
- **Controlled heat treating combines surface hardness with skin to core toughness in every part of every tool.**
- **SNAP-ON guarantee protects you . . . any wrench proving defective in material or workmanship will be replaced.**

IT PAYS TO OWN THE VERY BEST AND Snap-on MAKES THE VERY BEST TOOLS YOU CAN BUY.



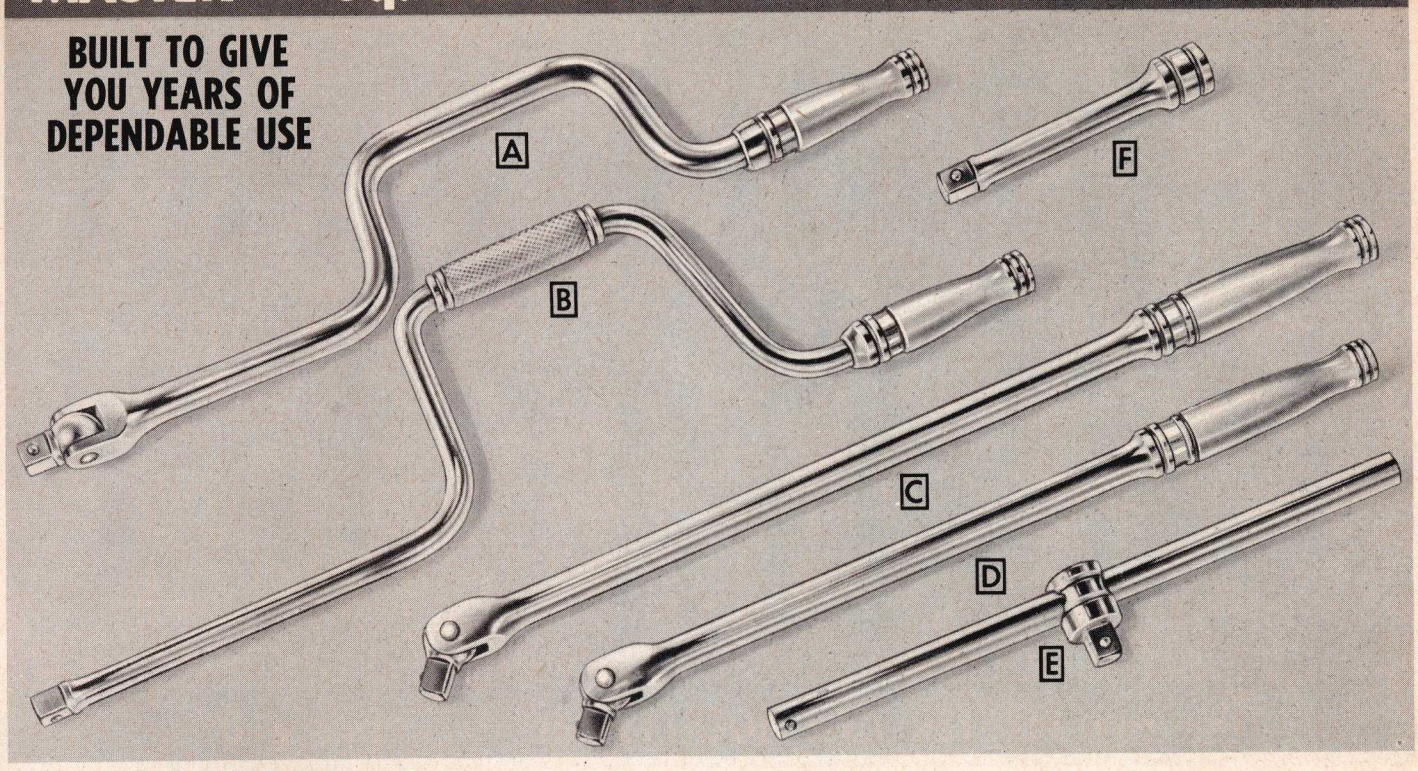
POWER-FLEX ANGLE DRIVE UNIT

GA-290 Power Flex Unit. This extremely handy attachment turns your ½" Square drive Air or Electric Impact Wrench into a versatile angle drive tool for hard-to-reach fasteners in limited access areas. Turns nuts, bolts, cap screws, etc., at any angle up to 90°—can be used as a 1¼" offset drive attachment. Well rounded housings provide a comfortable grip and the two sections swivel independently from each other to give maximum flexibility. Ball bearing operation. Housing is 1 7/16" diameter, maximum length 4 7/16".

▲ Federal Specs: GGG-W-641D applies to items on this page indicated by symbol ▲.

MASTER ½" Sq. DRIVE HANDLES AND ATTACHMENTS

BUILT TO GIVE YOU YEARS OF DEPENDABLE USE



"NUT SPINNER" SPEEDER

Ⓐ **SN-4A "Nut Spinner" Speeder.** A speeder, spinner and offset handle, in one. Straighten the hinged head to spin nut down and without taking it off the job, bend into offset position to tighten the nut. Shank length is 6⅜", overall length 17¼". Sweep radius is 2¾".

NUT SPEEDER

▲ Ⓑ **S-4 Speeder Handle.** The fastest handle to use where nuts are out in the open. Spins them on or off in a hurry. Both handle grips swivel for easy operation. Shank length is 8", overall length 19½", radius of sweep 4⅛". Chrome plated finish.

SLIDING TEE HANDLE

▲ Ⓔ **S-12L Sliding Tee Handle.** A friction ball in the head contacts the center groove to make a practical Tee Handle. The head slides to end of the bar to form an efficient offset handle. Head is 1¾" deep. Chrome plated finish. 12" long, ⅝" diameter.

"NUT SPINNERS"

"Nut Spinners". The hinged socket receiving end allows you to work the tool in any position to clear obstructions and an inner spring holds the head at desired angle for easy placement on the job. Long handles give plenty of leverage for tightening nuts or breaking them loose. Straighten out the hinge and you have a spinner handle. This extremely versatile tool will prove to be a valuable time saver. Chrome plated finish.

▲ Ⓓ **SN-15A "Nut Spinner"** 15" long

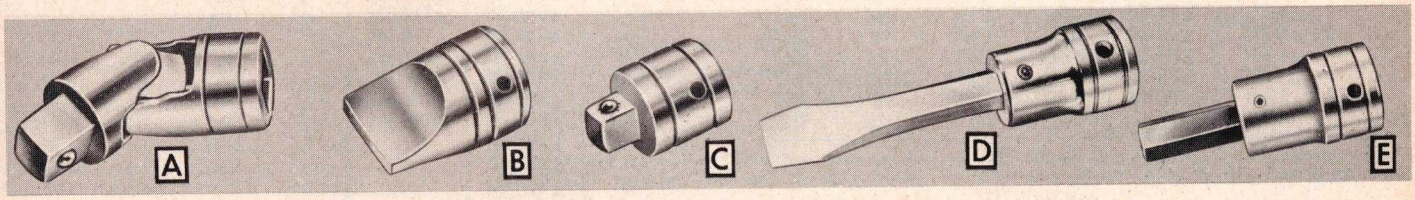
▲ Ⓒ **SN-18A "Nut Spinner"** 18" long

▲ **SN-24B "Nut Spinner"** ... 24" long

EXTENSION BARS

▲ Ⓕ **Extension Bars.** Made in seven lengths to give you greatest flexibility of use for your Master tool set. They give you that extra amount of reach that often means the difference between a tough job and an easy job. These tools have a chrome plated finish.

SX-2	Ext. Bar	2" long
SX-3	Ext. Bar	3½" long
SX-5	Ext. Bar	5" long
SX-10	Ext. Bar	10" long
SX-20	Ext. Bar	20" long
SX-24	Ext. Bar	24" long
SX-36	Ext. Bar	36" long



ATTACHMENTS FOR MASTER HANDLES (½" Square Drive)

Ⓐ UNIVERSAL JOINT

▲ **S-8 Universal Joint.** One of the biggest time-savers you can own when you need to work around obstructions. Inner spring holds joint at any angle for easy application to the job without interfering with the swivel action of the tool in use. ½" square drive, 2¾" long.

▲ Ⓑ DRAG LINK ADJUSTERS

Designed to turn slotted nuts on steering gear assemblies, drag links and tie rods. ½" square drive. 1¹¹⁄₁₆" long.

A-15 Adjuster. 17⁄32" x .150" blade.

A-17 Adjuster. 15⁄16" x .150" blade.

A-26 Adjuster. ¾" x .109" blade.

▲ Ⓒ HANDLE ADAPTORS

Interchange ⅜", ¾" and ⅝" square drive units with ½" drive units.

HD-1	½" female—⅝" male
A-2	⅜" female—½" male
A-4	½" female—⅜" male
LA-12 ...	½" female—¾" male
LA-62 ...	¾" female—½" male

Ⓓ STANDARD TIP SCREWDRIVER ATTACHMENTS

Save time on many jobs where regular screwdrivers would be awkward to use or where extra leverage is needed to break screws loose.

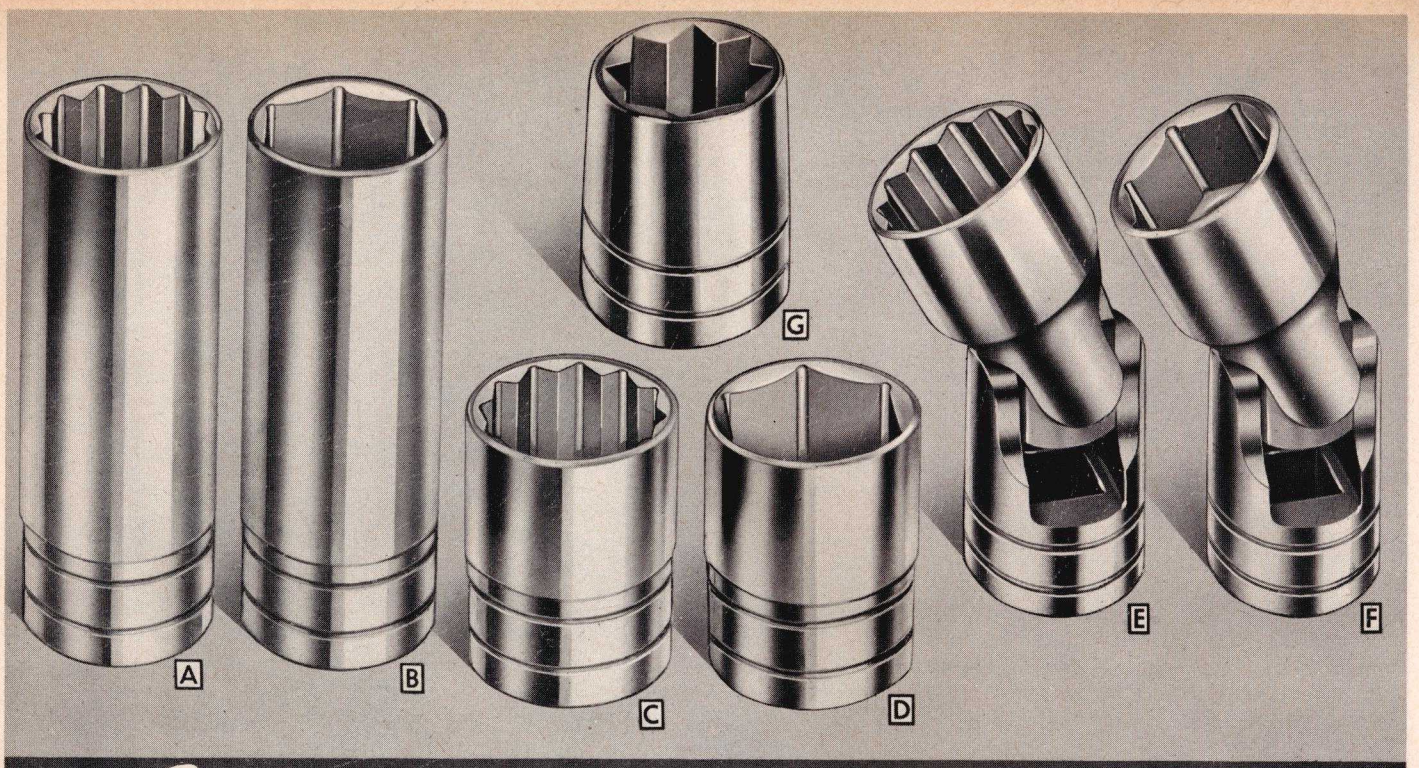
Bit Size	Complete Tool Stock No.	Complete Tool Lgth	Bit Only Stock No.	Roll Pin No.
7⁄16"x1⁄16"	SW-284A	4"	SW-284A-2	ESD-310
½"x1⁄16"	SW-324A	4"	SW-324A-2	ESD-310
⅝"x5⁄64"	SW-405A	4"	SW-405A-2	ESD-311

Ⓔ HEX HEAD WRENCHES

Provide the turning power you need to turn hex head cap screws when ordinary hex head wrenches are inconvenient to use or do not have enough leverage.

Hex Size	Complete Tool Stock No.	Complete Tool Length	Bit Only Stock No.	Roll Pin No.
5⁄16"	SA-10A	2⅜"	FA-10B-2	ESD-329
⅜"	SA-12A	2½"	SA-12A-2	ESD-310
7⁄16"	SA-14A	2⅞"	SA-14A-2	ESD-311
½"	SA-16A	3¹⁄₁₆"	SA-16A-2	ESD-311
9⁄16"	SA-18A	3³⁄₁₆"	SA-18A-2	ESD-311
⅝"	SA-20A	3¹¹⁄₃₂"	LAW-120A-2	ESD-306

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by this symbol ▲.



Snap-on MASTER LINE SOCKETS with 1/2" Square Drive

FLANK DRIVE EXTRA DEEP SOCKETS

Time savers when you have to reach nuts that are set down deeply over protruding bolts, for spring "U" bolts etc. The extra depth gives you the needed clearance and the "FLANK DRIVE" opening provides added socket strength and turning power.

Wrench Size	DOUBLE HEX Ⓐ Stock No.	SINGLE HEX Ⓑ Stock No.	Bolt Clearance	O.D. Socket End	O.D. Drive End	Length
3/8"	▲S-121	▲TS-121	25/8"	37/64"	1/8"	31/4"
7/16"	▲S-141	▲TS-141	25/8"	21/32"	1/8"	31/4"
1/2"	▲S-161	▲TS-161	25/8"	23/32"	1/8"	31/4"
9/16"	▲S-181	▲TS-181	25/8"	13/16"	1/8"	31/4"
5/8"	▲S-201	▲TS-201	25/8"	29/32"	1/8"	31/4"
11/16"	▲S-221	▲TS-221	25/8"	31/32"	29/32"	31/4"
3/4"	▲S-241	▲TS-241	25/8"	13/64"	31/32"	31/4"
13/16"	▲S-261	▲TS-261	25/8"	11/8"	11/16"	31/4"
7/8"	▲S-281	▲TS-281	25/8"	13/16"	11/8"	31/4"
15/16"	▲S-301	▲TS-301	25/8"	19/32"	17/32"	31/4"
1"	▲S-321	▲TS-321	25/8"	111/32"	19/32"	31/4"
1 1/16"	▲S-341	▲TS-341	25/8"	17/16"	13/8"	31/4"
1 1/8"	▲S-361	▲TS-361	25/8"	11/2"	17/16"	31/4"
1 3/16"	▲S-381	▲TS-381	25/8"	15/8"	19/16"	31/4"
1 1/4"	▲S-401	▲TS-401	25/8"	111/16"	15/8"	31/4"
1 5/16"	▲S-421	▲TS-421	25/8"	13/4"	111/16"	31/4"

FLANK DRIVE STANDARD LENGTH SOCKETS

Thin straight walls allow entry into tight spots. Chamfered openings help guide socket over the nut or bolt head. Carefully centered hot broaching equalizes wall strength. Double hex units give short turning arc, single hex are preferred for use on soft metal nuts.

Wrench Size	DOUBLE HEX Ⓒ Stock No.	SINGLE HEX Ⓓ Stock No.	Bolt Clearance	O.D. Socket End	O.D. Drive End	Length
3/8"	▲SW-121	▲TW-121	1/8"	9/16"	1/8"	1 1/2"
7/16"	▲SW-141	▲TW-141	1/8"	41/64"	1/8"	1 1/2"
1/2"	▲SW-161	▲TW-161	1/8"	23/32"	1/8"	1 1/2"
9/16"	▲SW-181	▲TW-181	1/8"	51/64"	1/8"	1 1/2"
5/8"	▲SW-201	▲TW-201	1/8"	29/32"	1/8"	1 1/2"
11/16"	▲SW-221	▲TW-221	1/8"	31/32"	29/32"	1 1/2"
3/4"	▲SW-241	▲TW-241	1/8"	13/64"	31/32"	1 1/2"
13/16"	▲SW-261	▲TW-261	1/8"	11/8"	11/16"	1 1/2"
7/8"	▲SW-281	▲TW-281	1/8"	13/16"	11/8"	1 1/2"
15/16"	▲SW-301	▲TW-301	1/8"	19/32"	13/16"	1 1/2"
1"	▲SW-321	▲TW-321	1/8"	111/32"	11/4"	1 1/2"
1 1/16"	▲SW-341	▲TW-341	1"	17/16"	13/8"	1 5/8"
1 1/8"	▲SW-361	▲TW-361	1 1/8"	11/2"	17/16"	1 3/4"
1 3/16"	▲SW-381	▲TW-381	1 1/8"	15/8"	19/16"	1 3/4"
1 1/4"	▲SW-401	▲TW-401	1 1/4"	111/16"	15/8"	1 7/8"
1 5/16"	▲SW-421	▲TW-421	1 1/4"	13/4"	111/16"	1 7/8"
1 3/8"	▲SW-441	.....	17/16"	113/16"	13/4"	2 1/16"
1 7/16"	▲SW-461	.....	15/8"	115/16"	17/8"	2 1/4"
1 1/2"	▲SW-481	.....	15/8"	2"	115/16	2 1/4"

Ⓖ DOUBLE SQUARE SOCKETS

Accurately broached openings allow maximum working convenience where handle movement is limited.

Wrench Size	Stock No.	Bolt Clearance	O.D. Socket End	O.D. Drive End	Length
3/8"	▲SW-412	1/8"	23/32"	1/8"	1 1/2"
7/16"	▲SW-414	1/8"	51/64"	1/8"	1 1/2"
1/2"	▲SW-416	1/8"	29/32"	1/8"	1 1/2"
9/16"	▲SW-418	1/8"	31/32"	29/32"	1 1/2"
5/8"	▲SW-420	1/8"	1 1/16"	1"	1 1/2"
11/16"	▲SW-422	1/8"	1 3/16"	1 1/8"	1 1/2"
3/4"	▲SW-424	1/8"	1 9/32"	1 3/16"	1 1/2"
13/16"	▲SW-426	1"	1 7/16"	1 3/8"	1 5/8"
7/8"	▲SW-428	1 1/8"	1 1/2"	1 7/16"	1 3/4"
1"	▲SW-432	1 1/4"	1 11/16"	1 5/8"	1 7/8"

FLANK DRIVE FLEXOCKETS

Hexagon "Flexockets" are extremely compact, short coupled, work freely from a wide angle to reach nuts in tight places. Have side locking hole to adapt them to industrial type handles.

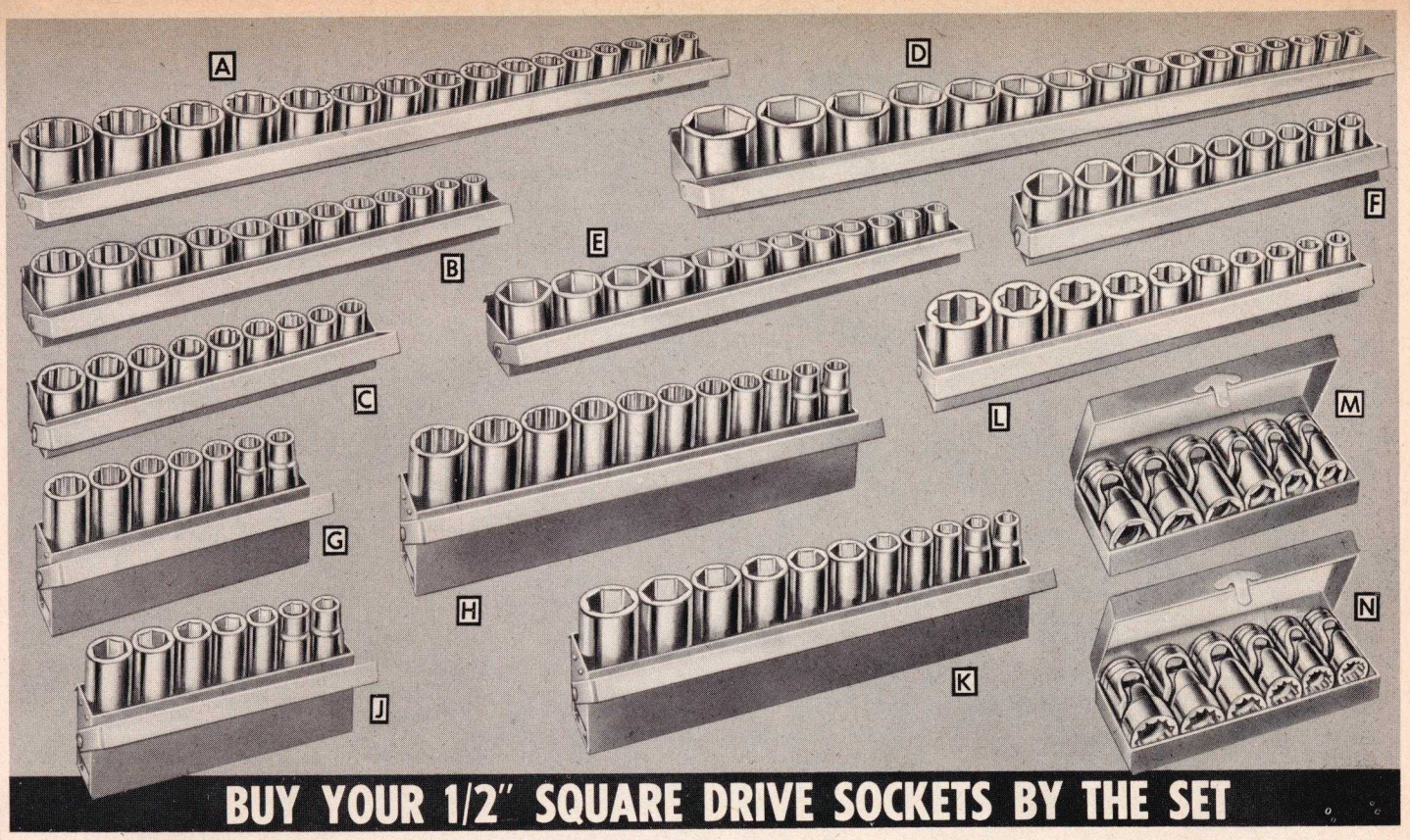
Ⓔ DOUBLE HEX SERIES

Wrench Size	Stock No.	O.D. Socket End	O.D. Drive End	Length
9/16"	▲SUD-18	27/32"	15/16"	2 27/64"
5/8"	▲SUD-20	15/16"	15/16"	2 15/32"
11/16"	▲SUD-22	1"	1 1/16"	2 9/16"
3/4"	▲SUD-24	1 1/16"	1 1/8"	2 7/8"
13/16"	▲SUD-26	1 3/16"	1 1/8"	2 15/16"
7/8"	▲SUD-28	1 1/4"	1 1/8"	2 15/16"

Ⓕ SINGLE HEX SERIES

Wrench Size	Stock No.	O.D. Socket End	O.D. Drive End	Length
9/16"	SU-18	27/32"	15/16"	2 27/64"
5/8"	SU-20	15/16"	15/16"	2 15/32"
11/16"	SU-22	1 3/64"	1 3/32"	2 9/16"
3/4"	SU-24	1 3/32"	1 1/8"	2 7/8"
13/16"	SU-26	1 3/16"	1 1/8"	2 15/16"
7/8"	SU-28	1 1/4"	1 1/8"	2 15/16"
15/16"	SU-30	1 5/16"	1 1/8"	3"

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by symbol ▲.



BUY YOUR 1/2" SQUARE DRIVE SOCKETS BY THE SET

SUPERIOR Snap-on FEATURES

Flank Drive Design. Master (½" square drive) single and double hex sockets have the patented SNAP-ON Flank Drive configuration. Read all about this revolutionary wrench development on page 5.

High Quality Steel. Steels of differing alloy analysis are used in the manufacture of SNAP-ON tools. Each is carefully selected to impart the most desirable qualities of hardness toughness, and durability according to the type of tool and its use.

Continued Research. In laboratories equipped with modern chemical and physical testing equipment, including machines constructed expressly for SNAP-ON and built to our exacting specifications, trained metallurgists conduct continuous research to develop the highest possible quality in our products.

Chamfered Openings. All SNAP-ON sockets have a chamfered bevel on the wrench opening to aid in guiding the socket onto the nut.

Hot Broaching. Examine a SNAP-ON socket and note the smooth, clean cut wrench corners and walls. This is the result of broaching while the socket is heated and contributes strength as well as accuracy to the tool.

Heat Treatment. Only the most advanced processes are good enough for SNAP-ON tools and furnaces of several types are used to impart the exact necessary degree of hardness, toughness and strength to every part.

Appearance. SNAP-ON sockets and handles are chromium plated and polished to a lustrous rust resistant finish. They look like quality tools, they have the "feel" of quality — on the job they prove they are quality. Compare them with all others and you'll want SNAP-ON socket wrenches.

Thin, Straight Walled Sockets. Special alloy steels permit sockets having great strength, yet with thin straight walls that work close to obstructions. The thin walls permit close control of heat treatment penetration. You get strength and light weight . . . important factors in every day use.

Size Accuracy. Tolerances are very closely held to give a snug fit on the nut. Close tolerances of square drive openings and handle drive squares eliminates socket wobble while affording easy interchange of units.

Rid your tool kit of worn out or mismatched socket wrenches and replace them with a time saving set of matched SNAP-ON quality sockets.

DOUBLE HEX SETS

Ⓐ **316-SW-TA Double Hex Socket Set.** 16 Sockets SW-121 through SW-421, in KTA-249 metal tray.
316-SW Set. Above set, tools only.
KTA-249 Metal Tray only.

Ⓑ **312B-SW-T Double Hex Socket Set.** 12 Sockets, SW-141 through SW-361, in KTA-215A metal tray.
312B-SW Set. Above set, tools only.
KTA-215A Metal Tray only.

Ⓒ **309-SW-T Double Hex Socket Set.** 9 sockets, SW-161 through SW-321, in KTA-236A metal tray.
309-SW Set. Above set, tools only.
KTA-236A Metal Tray only.

SINGLE HEX SETS

Ⓓ **316-TW-TA Single Hex Socket Set.** 16 Sockets TW-121 through TW-421, in KTA-249 metal tray.
316-TW Set. Above set, tools only.

Ⓔ **312-TW-T Single Hex Socket Set.** 12 sockets, TW-141 through TW-361, in KTA-215A metal tray.
312-TW Set. Above set, tools only.

Ⓕ **309-TW-T Single Hex Socket Set.** 9 sockets, TW-161 through TW-321, in KTA-236A metal tray.
309-TW Set. Above set, tools only.

DEEP DOUBLE HEX SETS

Ⓖ **307B-S-T Deep Double Hex Sockets.** 7 sockets S-161 through S-281 in KTA-245 metal tray.
307B-S Set. Above set, tools only.
KTA-245 Metal Tray only.

Ⓗ **311A-S-T Deep Double Hex Socket Set.** 11 sockets, S-161 through S-361 in KTA-240A metal tray.
311A-S Set. Above set, tools only.
KTA-240A Metal Tray only.

DEEP SINGLE HEX SETS

Ⓚ **311-TS-T Deep Single Hexagon Socket Set.** Eleven sockets TS-161 thru TS-361, in KTA-240A metal tray.
311-TS Set. Above set, tools only.

Ⓙ **307-TS-T Deep Single Hex Socket Set.** 7 sockets, TS-161 through TS-281 in KTA-245 metal tray.
307-TS Set. Above set, tools only.
KTA-245 Metal Tray only.

DOUBLE SQUARE SETS

Ⓛ **310A-SQ-T Double Square Socket Set.** 10 sockets, SW-412 through SW-432 in KTA-239 metal tray.
310A-SQ Set. Above set, tools only.
KTA-239 Metal Tray only.

FLEXOCKET SETS

Ⓜ **306-SU-B Single Hexagon Flexocket Set.** 6 sockets SU-18 through SU-28 in KRA-206 metal box.
306-SU Set. Above set, tools only.

Ⓝ **306-SUD-B Double Hexagon Flexocket Set.** 6 Flexockets, SUD-18 to SUD-28 in KRA-206 metal box.
306-SUD Set. Above set, tools only.
KRA-206 Metal Box only.

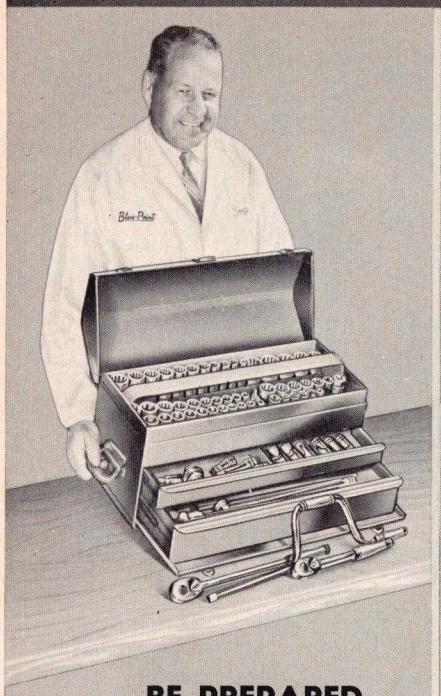
½" SQ. DRIVE SOCKETS FOR "WEATHERHEAD" FITTINGS

These sockets are designed especially to simplify service work when turning the larger WEATHERHEAD fittings such as those on both air and hydraulic brake lines in trucks, busses, aircraft, off-the-road machinery, etc. These ½" square drive sockets provide the turning power required. Smaller fittings are serviced by the ⅜" square drive sockets listed on page 67. Service the soft metal fittings with these sockets, and prevent costly time-wasting breakage.

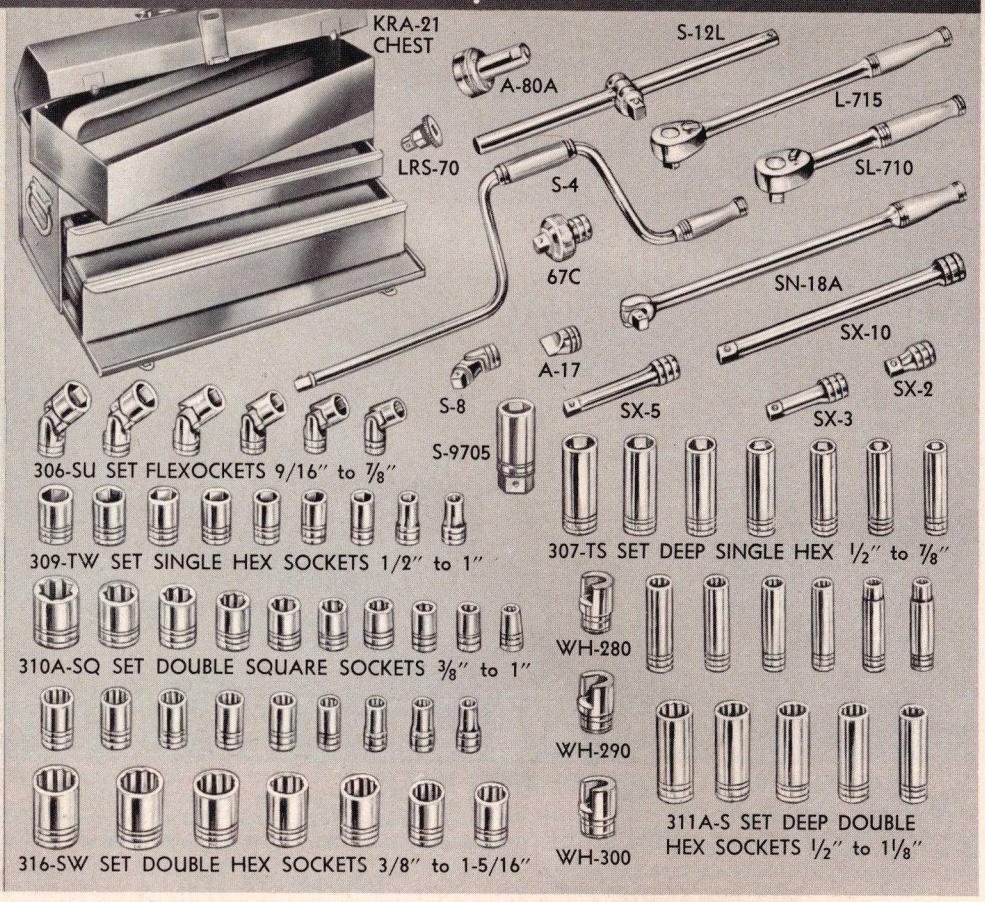
Size	Stock No.	Max. O.D.	Overall Length
⅞"	WH-280	1⅜"	1 13/16"
29/32"	WH-290	1 7/16"	1 13/16"
15/16"	WH-300	1½"	1 13/16"



MASTER SOCKET WRENCH SETS—1/2" SQUARE DRIVE



BE PREPARED FOR ANY SIZE JOB WITH THIS PROFESSIONAL SELECTION OF WRENCHES



377A-M-B MASTER "GENERAL" SET IN KRA-21 MECHANIKIT—77 TOOLS

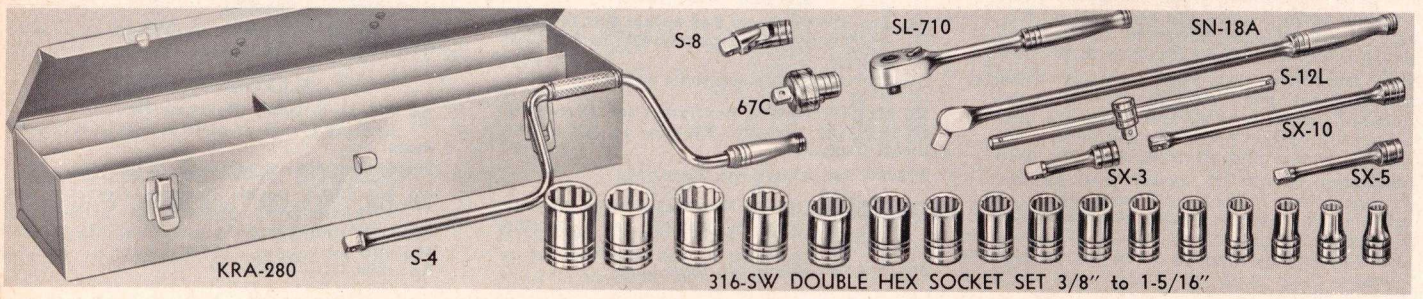
377A-M-B Master General Set. Here is our most complete set of Master (½" square drive) wrenches. Assembled for the mechanic who wants a full range of socket sizes and types together with a wide selection of handle equipment. This versatile assortment of matched units contributes speed and convenience to the overall proficiency of top notch mechanics in every type of service and maintenance work. Treat yourself to greater working ease with this outstanding set of SNAP-ON quality wrenches.

The KRA-21 "Mechanikit" shown above is the ideal container for these tools...its tote-tray and drawers are partitioned for orderly tool arrangements and safekeeping.

377A-M Master General Set. Without the Mechanikit.

Contents of 377A-M-B Master General Set

Stock No.	Description	Page	Stock No.	Description	Page
SN-18A	Nut Spinner, 18"	41	**A-80A**	Stud Remover	50
S-12L	Sliding Bar, 12"	41	**316-SW**	Double Hex Socket Set	43
S-4	Speeder, 19½"	41	**309-TW**	Single Hex Socket Set	43
SL-710	Ratchet, 10"	40	**311A-S**	Deep Double Hex Socket Set	43
SL-715	Ratchet, 15"	40	**307-TS**	Deep Single Hex Socket Set	43
LRS-70	Ratchet Spinner	40	**310A-SQ**	Square Socket Set	43
67C	Ratchet Adaptor	40	**306-SU**	Flexocket Set	43
S-8	Universal Joint	41	**S-9705**	Spark Plug Socket	94
SX-2	2" Extension Bar	41	**WH-280**	⅞" Socket (for Weatherhead)	43
SX-3	3½" Extension Bar	41	**WH-290**	29/32" Socket (for Weatherhead)	43
SX-5	5" Extension Bar	41	**WH-300**	15/16" Socket (for Weatherhead)	43
SX-10	10" Extension Bar	41	**KRA-21**	Mechanikit	11
A-17	Drag Link Adjuster	41			



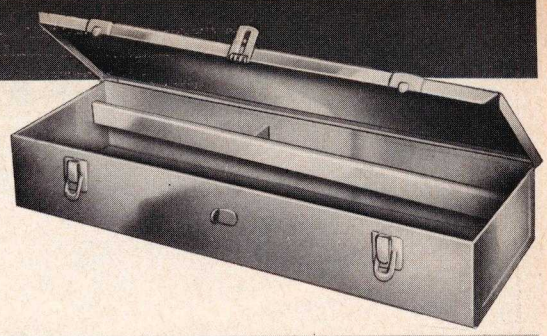
325-M-B MASTER "SUPREME" SET—25 Most Needed Tools

325-M-B Master Supreme Set. The socket range of 7/16" to 1 5/16" will turn practically any hexagon nut encountered in general servicing operations and the selection of handles and attachments provide turning speed, leverage and reach to take care of any situation. Get rid of worn out knuckle busters and equip now with this fine set of SNAP-ON wrenches. Make this set the foundation for a modern and efficient tool outfit. The KRA-280 metal case has separate compartments for sockets. A metal handle is fastened to the cover which is secured by sturdy hinges and gripclip. The case is 23" x 7¼" x 3⅝" high and has red enamel finish.

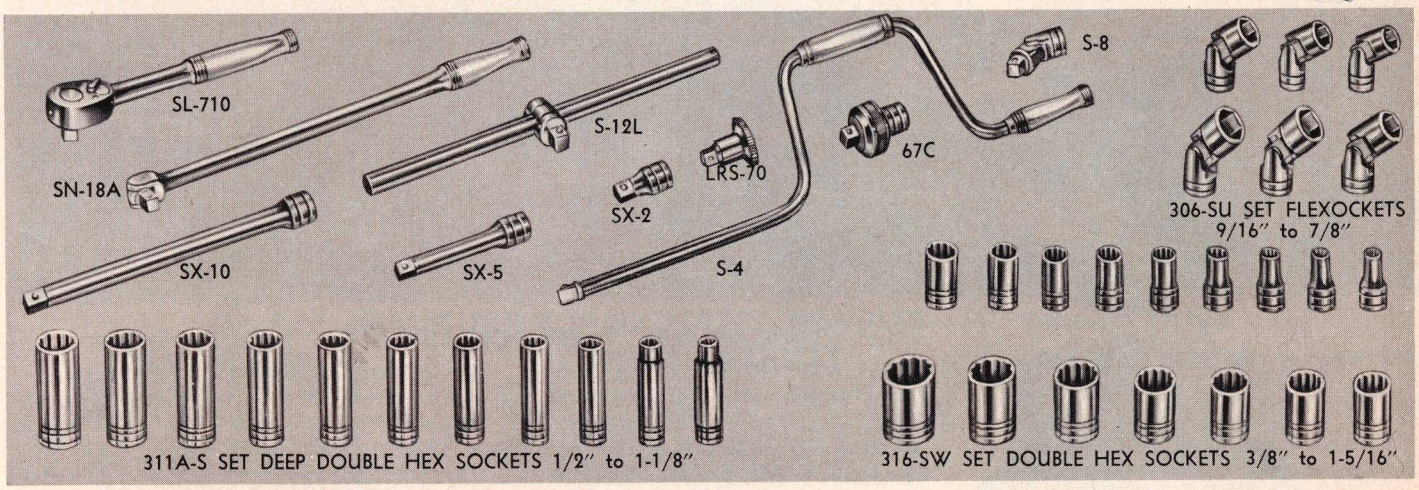
325-M Set. Above set without case.

Stock No.	Description	Page
SL-710	Master Ratchet Wrench 9¾" long	40
S-4	Master Nut Speeder 19½" long	41
67C	Ratchet Adaptor	40
SN-18A	Master Nut Spinner 18" long	41
S-12L	Master Sliding Bar 12" long	41
SX-3	Master Extension Bar 3½" long	41
SX-5	Master Extension Bar 5" long	41
SX-10	Master Extension Bar 10" long	41
S-8	Master Universal Joint	41
316-SW	Master Set of 16 Double Hex Sockets	43
KRA-280	Metal Box, Red Enameled Finish	45

KRA-280 BOX FOR SETS BELOW



KRA-280 Tool Box. All of the Master ½" Drive Sets listed below are available in this new, sturdy metal box. It is specially compartmented to segregate sockets from handles so that they are easy to select. There is plenty of room with extra space for additional items. Here is a box of such great utility that you will want it and use it for other purposes. Heavy metal welded throughout. Has trays along both top edges. 7¼" wide, 23" long and 3⅝" deep. Has two clasps on front and padlock hasp. Suit-case type handle at top. Red enameled finish.

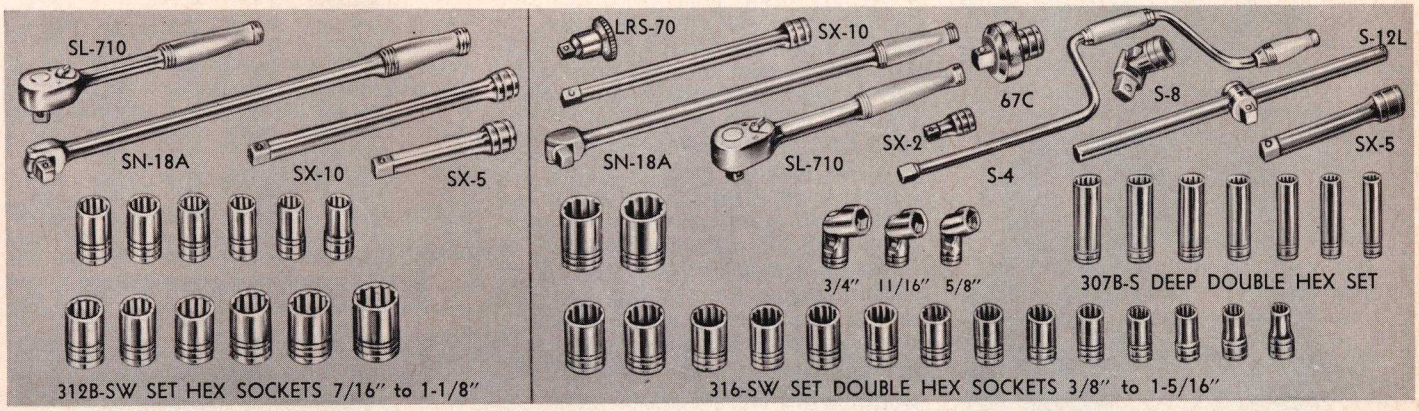


343-M-B MASTER MECHANICS SET—43 TOOLS

343-M-B Master Mechanics Set. Here is a Master ½" Drive Set that has been asked for by many mechanics. It contains the tools most used so you get the most tool for your money. Has a wide range of socket sizes from ⅜" to 1 5/16". With 10 handles and attachments this set will handle numerous nut and bolt turning operations quickly, safely and easily. Includes eleven deep double hex sockets from ½" through 1⅛"; sixteen standard double hex sockets from ⅜" through 1 5/16"; six single hex "Flexockets" from 9/16" through ⅞" and the nine handles and attachments as listed at the right. Set includes the KRA-280 box described and shown above.

Stock No.	Description	Stock No.	Description
SL-710	10" Ratchet	**SX-5**	5" Extension Bar
LRS-70	Ratchet Spinner	**SX-10**	10" Extension Bar
67C	Ratchet Adaptor	**311A-S**	Master Deep Double Hex Socket Set
SN-18A	"Nut Spinner" 18"	**316-SW**	Master Double Hex Socket Set
S-12L	Sliding "T" Handle 12"	**306-SU**	Master "Flexocket" Set
S-8	Universal Joint	**KRA-280**	Metal Tool Box
S-4	Speeder Handle 19½"		
SX-2	2" Extension Bar		

343-M Master Mechanic Set without KRA-280 box.



316-M-B MASTER BASIC SET—16 TOOLS

316-M-B Master Basic Set. Pictured above is a basic selection of ½" square drive SNAP-ON matched unit wrenches. It's the ideal starter set for the alert mechanic and gives him the most useful tools possible in a small set. The right tools for the job makes your work easier. Other "matched units" can be added as the need arises. The KRA-280 metal box shown, conveniently holds all the units with room for additional tools. Box has carrying handle on the lid. It measures 23" x 7¼" x 3⅝" high and is finished in red enamel.

316-M Master Basic Set. Tools only.

Stock No.	Description
SN-18A	Master "Nut Spinner" 18"
SL-710	Master Ratchet Wrench
SX-5	Master Ext. Bar 5"
SX-10	Master Ext. Bar 10"
312B-SW	Master Double Hex Socket Set
KRA-280	Box, Red Enamel Finish

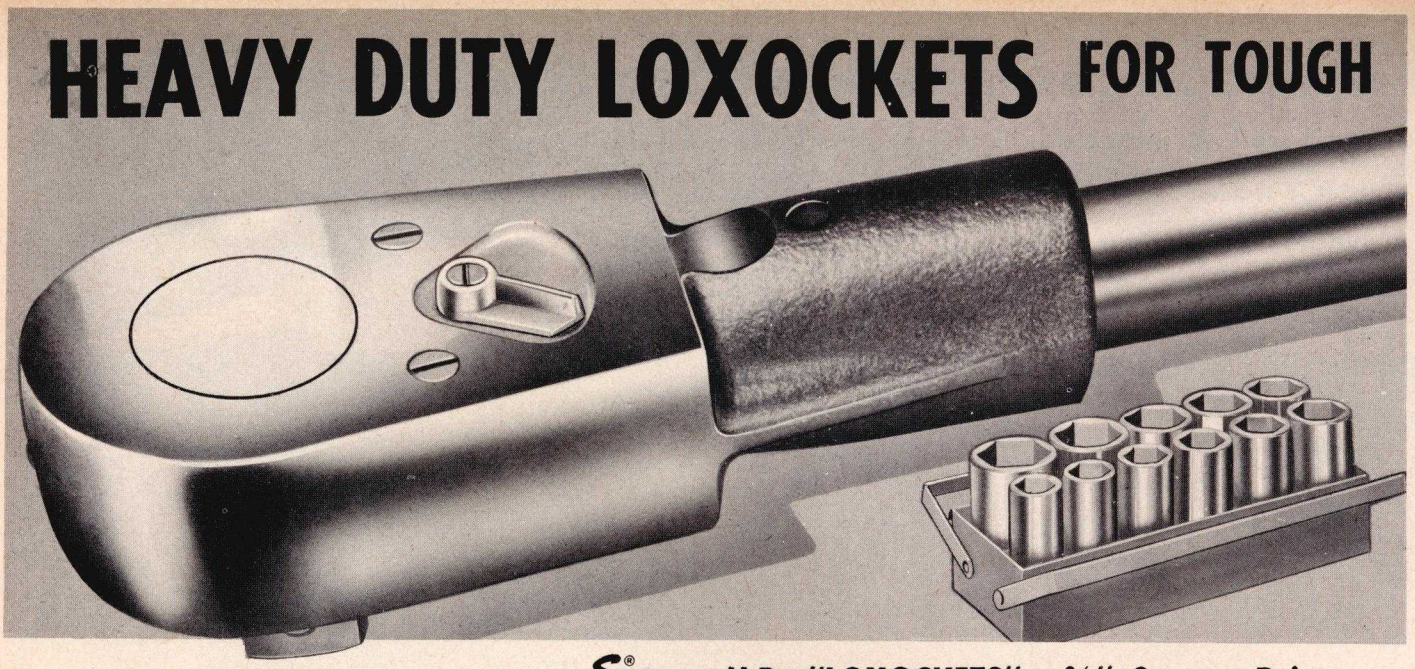
336-M-B MASTER UTILITY SET—36 TOOLS

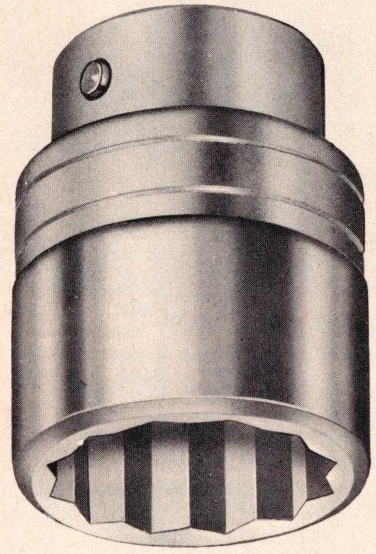
336-M-B Master Utility Set. Set includes 10 double hex sockets in sizes ⅜" to 1¼", 7 popular sizes of deep hex sockets for spark plug work and jobs where bolts protrude, and 3 hex flexockets. The ten handles and attachments provide great versatility of use. Rid your kit of obsolete, time-wasting, "misfits" and treat yourself to greater working ease with this set of SNAP-ON matched units. Set includes KRA-280 metal box. Box has carrying handle on the lid and measures 23" x 7¼" x 3⅝" high. Red enamel finish.

336-M Master Utility Set. Same set as above but tools only.

Stock No.	Description
SN-18A	Master "Nut Spinner"—18" long
S-12L	Master Sliding Bar—12" long
S-4	Master Speeder—19½" long
SL-710	Master Ratchet Wrench
LRS-70	Master Ratchet Spinner
67C	Master Ratchet Adaptor Wrench
SX-10	Master Extension Bar—10" long
SX-5	Master Extension Bar—5" long
SX-2	Master Extension Bar—2" long
S-8	Master Universal Joint
316-SW	Master Double Hexagon Socket Set
307B-S	Master Deep Double Hex. Socket Set
SU-20	Master "Flexocket"—⅝" wrench size
SU-22	Master "Flexocket"—11/16" wrench size
SU-24	Master "Flexocket"—¾" wrench size
KRA-280	Metal Box, Red Enamel Finish

HEAVY DUTY LOXOCKETS FOR TOUGH







Snap-on H.D. "LOXOCKETS" — 3/4" Square Drive

When a tough nut ties up your shop, minutes lost add up to dollars lost . . . you lose money every minute any machine is laid up for repairs or servicing. The trick is to get them OUT . . . quick. It's no trick at all when mechanics are equipped with SNAP-ON Heavy Duty "Loxocket" Wrenches . . . that's why so many Managers and Superintendents make these tools standard equipment in their shops.

Not only do they speed up your work but on top of that the special locking device on all units puts "Safety" into the hands of every operator and mechanic. This locking device is essentially the same as the standard friction grip except that the ball is replaced with a pin. This pin fits into the locking hole in the socket and will not release by pulling like the friction grip. A small button is incorporated in each socket which, when depressed, contacts the pin in the handle, releasing it from the socket. Interchanging of units is fast . . . simple . . . easy, yet you have the advantage of a one piece tool.

SNAP-ON "Loxockets" are machined from exceptionally high quality bar steel and held to very close tolerances. Hot broaching gives smooth, accurate openings and with no rough edges or chips at the bottom to collect dirt etc. Careful heat-treating of the "Loxocket" assures the utmost in strength with the exceptional toughness necessary for all heavy duty operations.

▲ STANDARD DOUBLE HEX SERIES

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter		Length
			Socket End	Drive End	
3/4"	LDH-242	1 1/4"	1 1/8"	1 7/16"	2"
13/16"	LDH-262	1 1/4"	1 7/32"	1 7/16"	2"
7/8"	LDH-282	1 1/4"	1 5/16"	1 7/16"	2"
15/16"	LDH-302	1 1/4"	1 3/8"	1 7/16"	2"
31/32"	LDH-312	1 1/4"	1 13/32"	1 7/16"	2"
1"	LDH-322	1 5/16"	1 29/64"	1 1/2"	2 1/16"
1 1/16"	LDH-342	1 3/8"	1 9/16"	1 1/2"	2 1/8"
1 1/8"	LDH-362	1 7/16"	1 5/8"	1 1/2"	2 3/16"
1 3/16"	LDH-382	1 1/2"	1 11/16"	1 1/2"	2 1/4"
1 1/4"	LDH-402	1 1/2"	1 3/4"	1 1/2"	2 1/4"
1 5/16"	LDH-422A	1 9/16"	1 7/8"	1 5/8"	2 5/16"
1 3/8"	LDH-442	1 9/16"	1 15/16"	1 5/8"	2 5/16"
1 7/16"	LDH-462	1 5/8"	2"	1 5/8"	2 3/8"
1 1/2"	LDH-482	1 11/16"	2 1/8"	1 5/8"	2 1/2"
1 9/16"	LDH-502	1 7/8"	2 3/16"	1 3/4"	2 5/8"
1 5/8"	LDH-522	1 7/8"	2 1/4"	1 3/4"	2 5/8"
1 11/16"	LDH-542	2"	2 3/8"	1 3/4"	2 3/4"
1 3/4"	LDH-562	2"	2 7/16"	1 3/4"	2 3/4"
1 13/16"	LDH-582	2 1/8"	2 1/2"	1 3/4"	2 7/8"
1 7/8"	LDH-602	2 1/4"	2 9/16"	1 3/4"	3"
2"	LDH-642	2 3/8"	2 3/4"	1 3/4"	3 1/8"
2 1/16"	LDH-662	2 3/8"	2 15/16"	1 3/4"	3 1/8"
2 1/8"	LDH-682	2 1/2"	2 15/16"	1 3/4"	3 1/4"
2 3/16"	LDH-702	2 1/2"	2 15/16"	1 3/4"	3 1/4"
2 1/4"	LDH-722	2 5/8"	3 1/8"	1 3/4"	3 3/8"
2 3/8"	LDH-762	2 7/8"	3 1/4"	1 3/4"	3 5/8"

426-LDH Set. One each of above sockets.

EXTRA DEEP HEXAGON SERIES

Wrench Size	Stock No.	Bolt Clearance Depth	Outside Diameter		Length
			Socket End	Drive End	
7/8"	LS-282	2 3/4"	1 5/16"	1 7/16"	3 1/2"
15/16"	LS-302	2 3/4"	1 3/8"	1 7/16"	3 1/2"
1"	LS-322	2 3/4"	1 29/64"	1 1/2"	3 1/2"
1 1/16"	LS-342	2 3/4"	1 9/16"	1 1/2"	3 1/2"
1 1/8"	LS-362	2 3/4"	1 5/8"	1 1/2"	3 1/2"
1 1/4"	LS-402	2 3/4"	1 3/4"	1 1/2"	3 1/2"
1 5/16"	LS-422A	2 3/4"	1 7/8"	1 5/8"	3 1/2"
1 3/8"	LS-442	2 3/4"	1 15/16"	1 5/8"	3 1/2"
1 7/16"	LS-462	2 3/4"	2"	1 5/8"	3 1/2"
1 1/2"	LS-482	2 3/4"	2 1/8"	1 5/8"	3 1/2"
1 5/8"	LS-522	2 3/4"	2 1/4"	1 3/4"	3 1/2"

411-LS Set. One each of above sockets.

HEAVY DUTY EXTRA DEEP HEX SETS

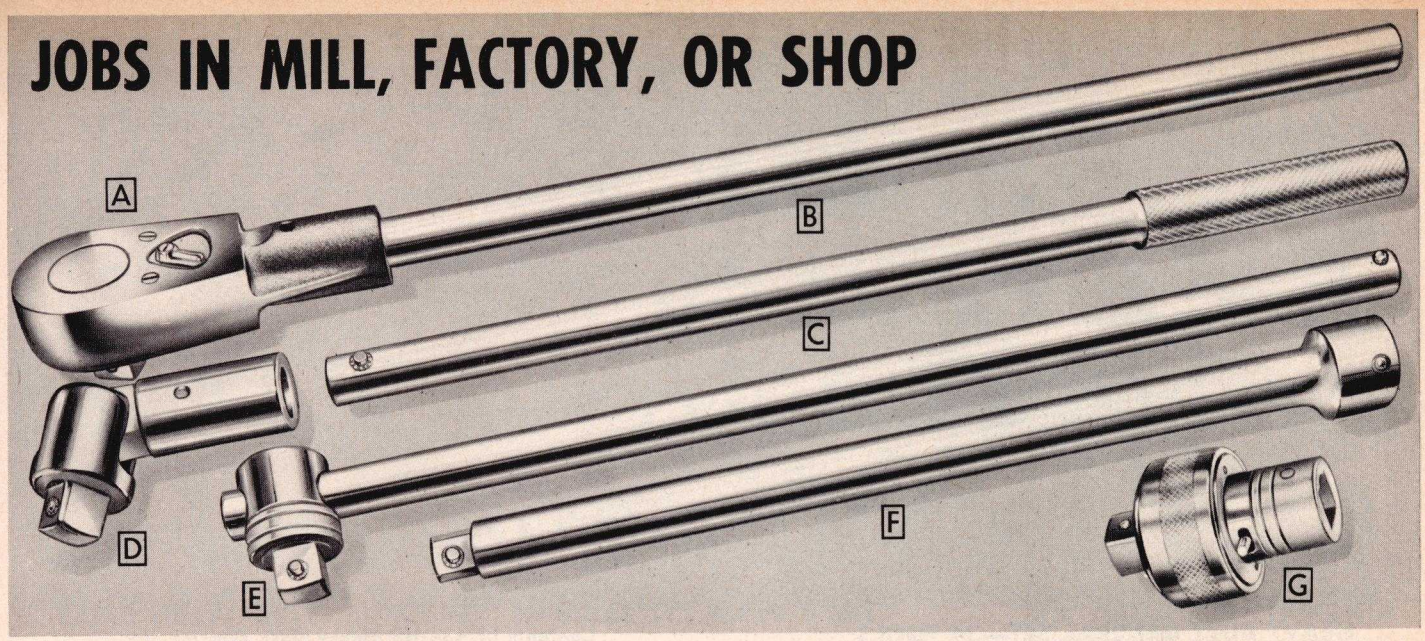
411-LS-T Set, consisting of 11 sockets, one each of LS-282 through LS-522 above in KTA-244 Metal Tray.

411-LS Set. Same as above but without metal tray.

KTA-244 Metal Tray. Partitioned to hold two rows of sockets. 10 5/16" long, 2 1/32" high and 3 13/16" wide. Tray has lip for hanging on edge of tool box. Has a grill-work bottom so tray and sockets can be easily cleaned in tank of solvent.

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by this symbol ▲.

JOBS IN MILL, FACTORY, OR SHOP



Snap-on HEAVY DUTY "LOXOCKET" HANDLES — 3/4" Square Drive

RATCHET AND DETACHABLE HANDLE

Ⓐ and Ⓑ **L-72TH Heavy Duty Ratchet.** A combination of the L-72T Ratchet Head and L-72H Handle. Powerful leverage to turn those larger nuts and bolts. Efficient, smooth working, reversible ratcheting action speeds your work. Rugged construction to stand heavy duty work of all kinds.

The design and construction of this tool make it the most outstanding 3/4" drive heavy duty ratchet we have ever offered the trade. The detachable handle locks on to the ratchet head and will not come off until the locking button is released. Overall length, 24".

▲ Ⓐ **L-72T Ratchet Head** only. Length 6", head thickness 1 1/8". 32 tooth action. Requires only a 12° handle swing when working in close quarters.

▲ Ⓐ and Ⓒ **L-72TJ Heavy Duty Ratchet.** Combination of the L-72T Ratchet Head and the L-72RJ Handle.

RATCHET ADAPTOR

▲ Ⓖ **L-672A Ratchet Adaptor.** Converts any combination of handle, extension and socket into a 44 tooth, reverse action ratcheting tool to help cut time and labor on many jobs. Outside diameter 2 1/2", 4" long.

WRENCH HANDLES

These wrench handles are made of solid high carbon alloy steel with one end fitted with a locking button for securely attaching to the Ratchet Head, or Nut Spinner Head. Heads cannot be detached accidentally but are easily released when you desire. Handle diameter is 13/16" and length 20".

▲ Ⓑ **L-72H Handle.** Used with L-72T, L-112E and L-52B Wrench heads.

Ⓒ **L-72RJ Handle.** This handle is preferred by some because its knurled grip provides a firm, sure hand hold.

"NUT SPINNER"

▲ Ⓑ and Ⓓ **L-112EH Heavy Duty "Nut Spinner."** Complete with the L-72H handle and L-112E nut spinner. A heavy duty unit that offers the advantages of a "Nut Spinner" handle, an offset handle and an angle head handle all in one. The detachable handle can also be used on the Ratchet Head and Sliding Head, giving a maximum tool efficiency at a minimum cost. The entire unit is built to take those tough jobs which require extra powerful leverage to break loose those large rusted-on nuts and bolts. 21 1/2" long.

▲ Ⓓ **L-112E "Nut Spinner" Head** only. Head diameter 1 9/16", depth 2 5/16". Use on either of the handles listed above.

Ⓒ and Ⓓ **L-112EJ Heavy Duty Nut Spinner.** Combination of the L-112E Nut Spinner Head and the L-72RJ Handle.

SLIDING BAR

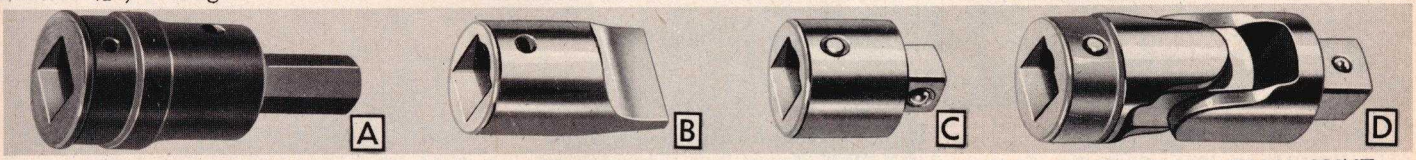
▲ Ⓔ **L-52BH Heavy Duty Sliding Bar.** Complete with the L-72H handle and L-52B sliding head. Three tools in one—a combination sliding bar handle and offset handle, which the attachment of an extension bar converts to a "T" handle. The head can be purchased separately if you already have the bar handle. A spring and ball device holds the head at any point on the handle. Overall length, 20".

L-52B Sliding Head only. Depth 2 5/16". Can be used on ether of the handles listed at left.

EXTENSION BARS

▲ Ⓕ **Heavy Duty Extension Bars.** Give you the extra reach you need on so many jobs and are probably used on more operations than any other wrench attachment. Used in conjunction with the sliding bar, they convert it for use as a "T" handle. Shank diameter is 15/16".

L-122 Extension Bar 16 inches long.
L-62 Extension Bar 8 inches long.
L-42 Extension Bar 5 inches long.
L-32 Extension Bar 3 inches long.



▲ Ⓐ HEX HEAD WRENCHES

For use with 3/4" square drive handles. Two-piece construction permits better heat treatment of parts for maximum service. Black finish. See Index pages for listing of other hex head wrenches.

LAW-118A 9/16" Hex Head Wrench.
SA-18-A-2 ..... Extra 9/16" bit.
ESD-311 . Roll-Pin for above.
LAW-120A 5/8" Hex Head Wrench.
LAW-120A-2 . Extra 5/8" bit.
ESD-306 Roll-Pin for above.
LAW-124A 3/4" Hex Head Wrench.
LAW-124A-2 . Extra 3/4" bit.
ESD-309 ..... Roll-Pin for above.

Ⓑ DRAG LINK ADJUSTER

LD-138 Drag Link Adjuster. This heavy duty unit has been made especially for drag link adjusting work on trucks and buses. The short, tapered blade will take the punishment necessary for work of this type. "Loxocket" release button permits fast, easy removal. Overall length of the unit is 2 3/16", outside diameter 1 3/8", tip size 13/64" x 1 3/8". Chrome finish.

▲ Ⓒ HANDLE AND SOCKET ADAPTORS

These adaptors allow you to interchange your Heavy Duty (3/4" square drive) wrenches with Master (1/2" square drive), old style Heavy Duty (5/8" square drive), and Extra Heavy Duty (1" square drive) units. Chrome plated finish.

LA-12 Adaptor ..... 1/2" drive to 3/4"
LA-62 Adaptor ..... 3/4" drive to 1/2"
LA-52 Adaptor ..... 3/4" drive to 5/8"
LA-32 Adaptor ..... 5/8" drive to 3/4"
LA-72 Adaptor ..... 3/4" drive to 1"
LA-124 Adaptor ..... 1" drive to 3/4"

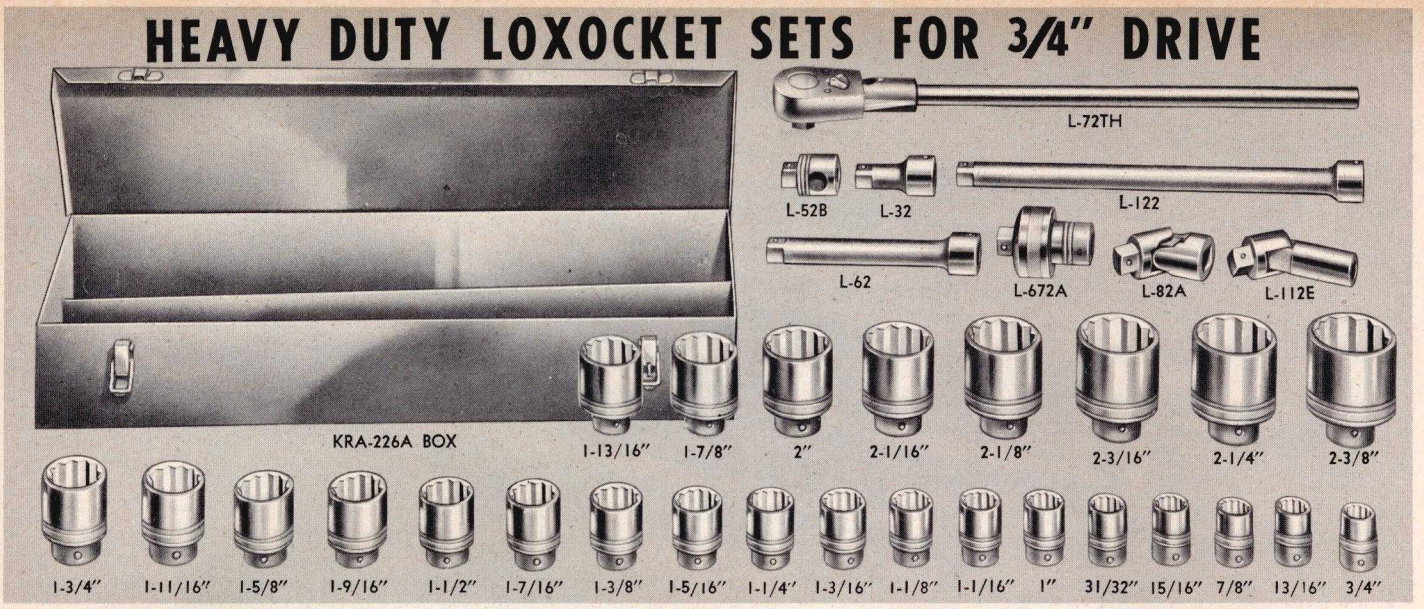
▲ Ⓓ UNIVERSAL JOINT

L-82A Heavy Duty Universal Joint. Whenever you must reach in at an angle after a nut, you need the working convenience of a universal joint. This tool worms in and gets those around-the-corner and under-obstruction nuts and bolts.

Machined from finest alloy steel — heat treated and tempered for maximum service under toughest working conditions. Chrome finish. Outside diameter is 1 9/16", overall length 3 7/8".

▲ Federal Specs: GGG-W-641D applies to items on this page indicated by symbol ▲.

HEAVY DUTY LOXOCKET SETS FOR 3/4" DRIVE



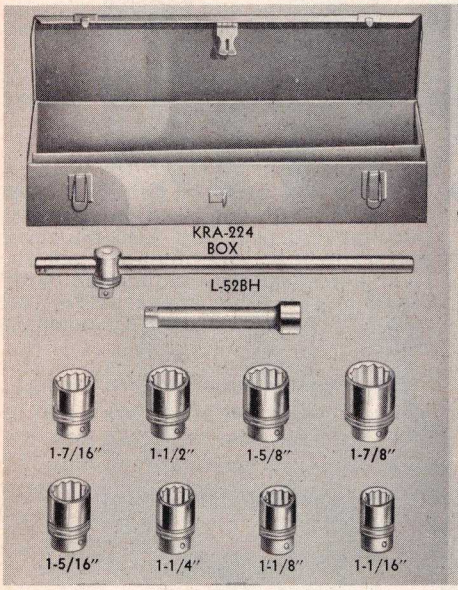
HEAVY DUTY GENERAL SET—34 TOOLS

434-HD-B Heavy Duty General Set. The right combination of tools means hours of time saved when machines and equipment are down for repair, and the proper selection of tools for production or maintenance work is a profitable investment. Equip your men to do faster, more efficient work with this complete set of heavy duty wrenches. This selection gives a "Loxocket" range of 7/8" to 2 3/4" with hundreds of handle and socket combinations. Units are described on pages 46 and 47. Detachable ratchet handle fits sliding head and nut spinner head. The sturdy KRA-226A metal box measures 26 3/4" x 9" x 3 7/8". Has trunk-type handle at each end and two clasp fasteners, one of which can be padlocked to secure the lid.

434-HD General Set. Above set but tools only.

Contents of 434-HD Heavy Duty General Set

Stock No.	Description	Stock No.	Description
L-72-TH	Ratchet (Complete)	LDH-402	1 1/4" Double Hexagon "Loxocket"
L-52B	Sliding Tee Head	LDH-422A	1 5/16" Double Hexagon "Loxocket"
L-112E	"Nut Spinner" Head	LDH-442	1 3/8" Double Hexagon "Loxocket"
L-672A	Ratchet Adaptor	LDH-462	1 7/16" Double Hexagon "Loxocket"
L-82A	Universal Joint	LDH-482	1 1/2" Double Hexagon "Loxocket"
L-32	3" Extension	LDH-502	1 9/16" Double Hexagon "Loxocket"
L-62	8" Extension	LDH-522	1 5/8" Double Hexagon "Loxocket"
L-122	16" Extension	LDH-542	1 11/16" Double Hexagon "Loxocket"
LDH-242	3/4" Double Hexagon "Loxocket"	LDH-562	1 3/4" Double Hexagon "Loxocket"
LDH-262	13/16" Double Hexagon "Loxocket"	LDH-582	1 13/16" Double Hexagon "Loxocket"
LDH-282	7/8" Double Hexagon "Loxocket"	LDH-602	1 7/8" Double Hexagon "Loxocket"
LDH-302	15/16" Double Hexagon "Loxocket"	LDH-642	2" Double Hexagon "Loxocket"
LDH-312	31/32" Double Hexagon "Loxocket"	LDH-662	2 1/16" Double Hexagon "Loxocket"
LDH-322	1" Double Hexagon "Loxocket"	LDH-682	2 1/8" Double Hexagon "Loxocket"
LDH-342	1 1/16" Double Hexagon "Loxocket"	LDH-702	2 3/16" Double Hexagon "Loxocket"
LDH-362	1 1/8" Double Hexagon "Loxocket"	LDH-722	2 1/4" Double Hexagon "Loxocket"
LDH-382	1 3/16" Double Hexagon "Loxocket"	LDH-762	2 3/8" Double Hexagon "Loxocket"



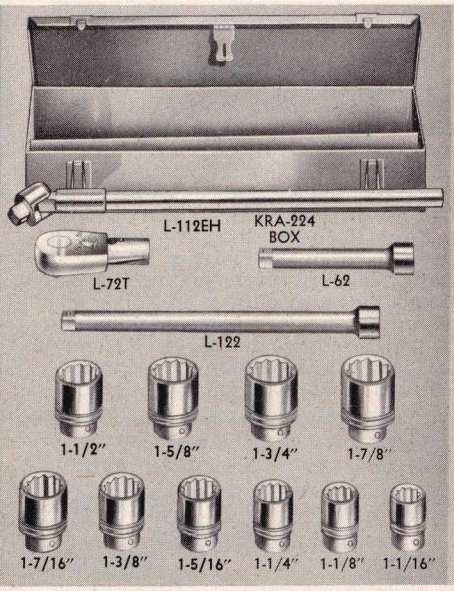
H. D. BASIC SET—10 Tools

410A-HD-B Heavy Duty Basic Set. Selected to provide maximum utility at minimum cost for the mechanic building up his tool equipment or who has only occasional need for these powerful wrenches. "Loxocket" sizes 1 1/16" to 1 3/4" handle most of heavier garage work. Set includes KRA-224 red enamel metal box, size 22 5/8" x 8 3/8" x 3 1/2".

Handles: L-52BH Sliding Bar and L-62 8" Extension.

Sockets: LDH-342, LDH-362, LDH-402, LDH-422A, LDH-462, LDH-482, LDH-522, and LDH-602.

410A-HD Set. Above set tools only.



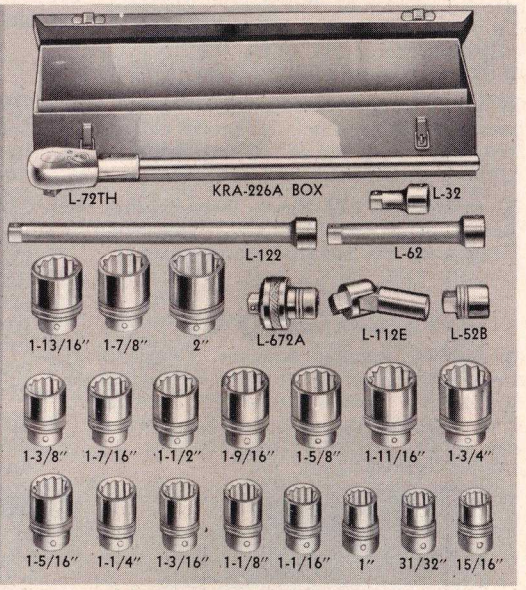
H. D. STANDARD SET—14 Tools

414A-HD-B Heavy Duty Standard Set. Men working in fleet shops are enthusiastic about the power and safe operation provided by this set of Heavy Duty Units. The 10 "Loxockets" provide a size range of 1 1/16" to 1 7/8", the sliding bar handle also fits the ratchet head. Red enameled KRA-224 metal box measures 22 5/8" x 8 3/8" x 3 1/2".

Handles: L-72T Rachet Head, L-52BH Sliding Bar, L-62 8" Extension and L-122 16" Extension.

Sockets: LDH-342, LDH-362, LDH-402, LDH-422A, LDH-442, LDH-462, LDH-482, LDH-522, LDH-562, LDH-602.

414A-HD Set. Above set tools only.



HEAVY DUTY UTILITY SET—25 Tools

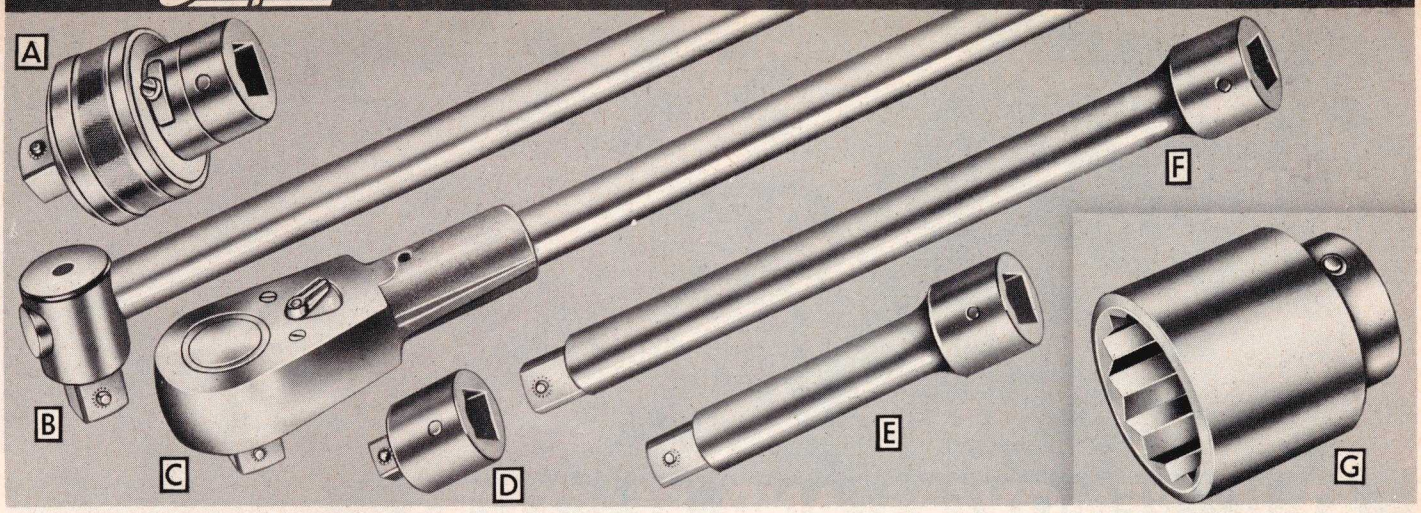
425A-HD-B Heavy Duty Utility Set. A practical selection of wrenches for factory and building maintenance, medium diesel and stationary engine assembly and service, fleet shops, etc. Detachable handle fits ratchet, nut-spinner and sliding head, 18" "Loxockets" provide sizes 15/16" to 2". Red enameled metal box KRA-226A measures 26 3/4" x 9" x 3 7/8".

Handles: L-72TH Ratchet, L-52B Sliding Head, L-672A Racthet Adaptor, L-112E Nut Spinner Head, Ext. Bars, L-32, L-62, L-122.

Sockets: LDH-302, LDH-312, LDH-322, LDH-342, LDH-362, LDH-382, LDH-402, LDH-422-A, LDH-442, LDH-462, LDH-482, LDH-502, LDH-522, LDH-542, LDH-562, LDH-582, LDH-602, and LDH-642.

425A-HD Sets. Above set but tools only.

Snap-on® EXTRA HEAVY DUTY "LOXOCKET" WRENCHES



EXTRA HEAVY DUTY "LOXOCKET" HANDLES (1" Square Drive)

▲ Ⓐ **L-673 Ratchet Adaptor.** Here is a new addition to SNAP-ON's Extra Heavy Duty series that will prove a real time-saver. It converts any combination of handle, extension and socket into a 44 tooth, reverse action ratcheting tool and will make your present set twice as useful. Outside diameter 3¼", overall length 5".

▲ Ⓑ **L-53 Extra Heavy Duty Sliding Bar.** Thirty full inches of tremendous leverage when this tool is used as an Offset Handle. The head can be used in any position on the bar or as a tee wrench in combination with extension bars. Handle is same as used on L-73 Ratchet.

L-53A Sliding Bar Head only. 3 1/16" deep.

Ⓓ **Handle and Socket Adaptors.** These two adaptors enable you to interchange your Extra Heavy Duty units (1" square drive) with Heavy Duty (¾" square drive) units.

▲ **LA-72 Adaptor.** ¾" drive female end—1" drive male end.

▲ **LA-124 Adaptor.** 1" drive female end—¾" drive male end.

▲ Ⓒ **L-73-BH Ratchet and Detachable Handle.** Rugged strength, tremendous leverage, and high speed ratchet action combine to chase away the nightmare of costly delays and shutdowns.

This tool is recommended without hesitation for the toughest kind of work. The detachable hammer forged head and all working parts are accurately machined from special alloy steels, heat treated to give the utmost strength and durability. Hardened bearings in the head resist wear. The 30-tooth ratchet action requires only a 12° handle movement. 35" long.

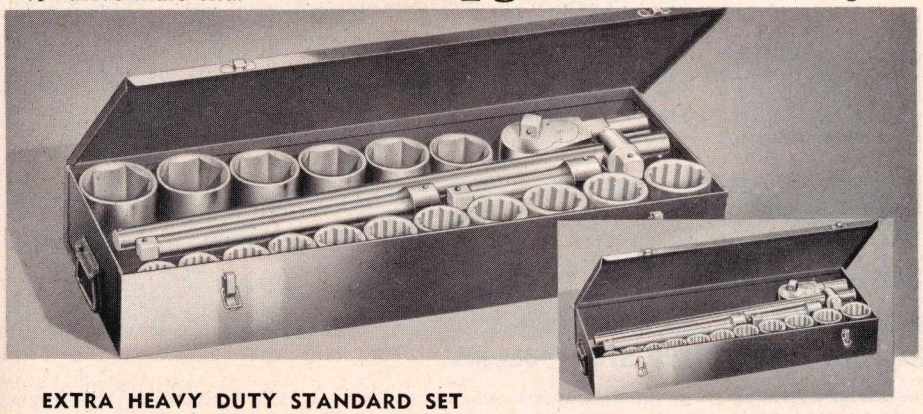
▲ **L-73B Ratchet Head** only, 7 13/16" long, 1 7/16" thick.

L-53H Handle only, 30" long, 1⅛" dia.

Extra Heavy Duty Extension Bars. These extensions give you the valuable adaptability of the Ratchet or Sliding Bar to nuts or bolts down in deep holes or crevices where other tools will not reach, or where obstructions interfere.

▲ Ⓔ **L-63 Extension Bar** 8" long.

▲ Ⓕ **L-123 Extension Bar** 16" long.



EXTRA HEAVY DUTY STANDARD SET

521-EHD-B Extra Heavy Duty Standard Set. Includes all 17 Hexagon "Loxockets" and handles listed on this page, complete in KRA-238A Metal Box. Metal box is heavy gauge steel—spot welded for durability. Lid has full length hinge and two wire bales, one takes a padlock. Has sturdy handles on each end. Finished in baked-on red enamel. Size 31½" long, 11¼" wide and 5¼" deep.

521A-EHD Set. Above set without box.

E.H.D. BASIC SET

515A-EHD-B Extra Heavy Duty Basic Set. Included are 11 powerful Hexagon "Loxockets" LDH-463, 483, 523, 543, 563, 583, 603, 643, 683, 703 and 723; the L-73B Ratchet Head, a 30" Sliding Bar L-53 and two extension bars L-63 and L-123. Includes KRA-238A Box.

515A-EHD Set. Set without box.

THE "LOXOCKET" PRINCIPLE

The "Loxocket" principle makes any combination of these units as safe as a one-piece wrench . . . they lock together securely and will not accidentally come apart . . . a convenent release button allows you to interchange sockets swiftly and easily. Here are tools with the power and leverage to accomplish more work easier and with less fatigue . . . built to break loose those big rusted-on nuts and bolts or to tighten them securely.

We recommend this equipment for speeding up the heavier nut-turning work in truck or bus shops—installation and maintenance on marine and mine machinery—on power plants and transmitting machinery—in locomotive shops, etc.

Rid your maintenance and repair operations of time wasting, worn out, obsolete or inadequate wrench equipment. Replace them with SNAP-ON wrenches that will help you handle repair jobs more efficiently and get breakdowns back to work faster. Units are machined from fine alloy steel, heat-treated under precise controls for maximum strength and chrome plated.

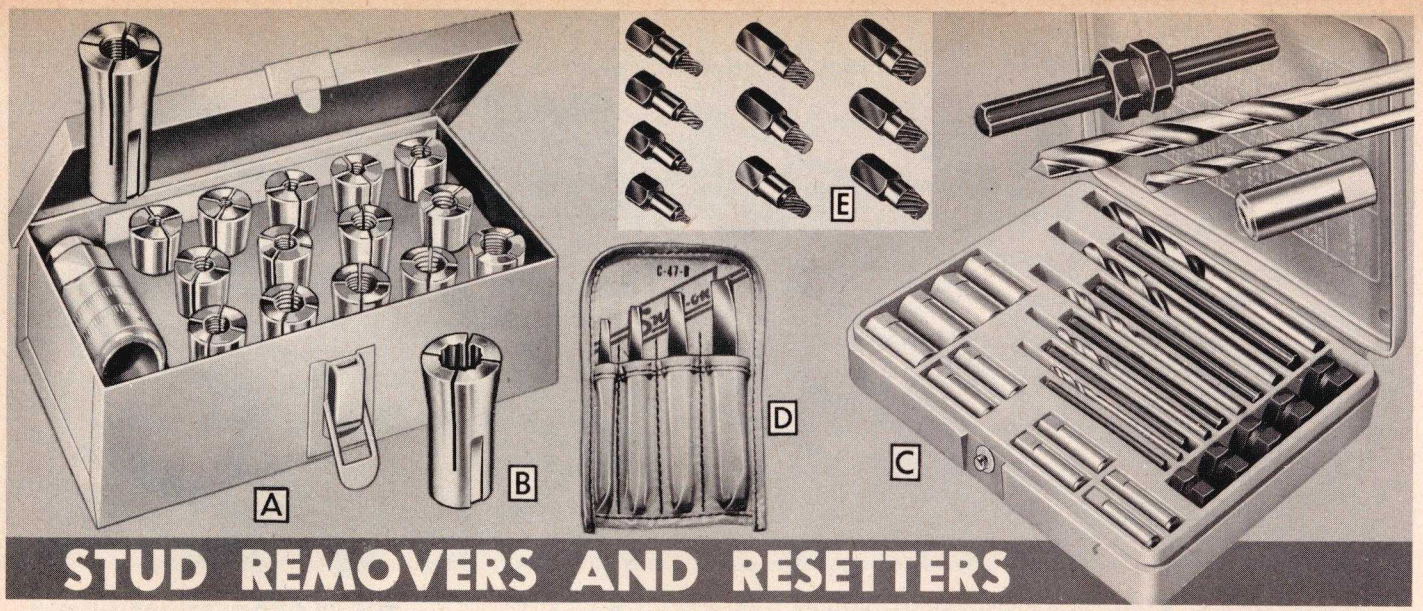
▲ Ⓖ Extra H.D. "LOXOCKETS"

Wrench Size	Stock No.	Bolt Clearance	O.D. Socket End	O.D. Drive End	Overall Length
Double Hexagon Sizes					
1 7/16"	**LDH-463**	1½"	2 3/16"	2"	2⅝"
1½"	**LDH-483**	1⅝"	2¼"	2"	2¾"
1⅝"	**LDH-523**	1¾"	2⅜"	2"	2⅞"
1 11/16"	**LDH-543**	1⅞"	2½"	2"	3"
1¾"	**LDH-563**	1⅞"	2 9/16"	2"	3"
1 13/16"	**LDH-583**	2"	2⅝"	2⅛"	3⅛"
1⅞"	**LDH-603**	2⅛"	2¾"	2⅛"	3¼"
2"	**LDH-643**	2¼"	2 15/16"	2⅛"	3⅜"
2⅛"	**LDH-683**	2⅜"	3⅛"	2¼"	3½"
2 3/16"	**LDH-703**	2½"	3⅛"	2¼"	3⅝"
2¼"	**LDH-723**	2⅝"	3¼"	2¼"	3¾"
Single Hexagon Sizes					
2⅜"	**L-763**	2¾"	3⅜"	2¼"	3⅞"
2½"	**L-803**	3"	3½"	2¼"	4⅛"
2⅝"	**L-843**	3⅛"	3 21/32"	2¼"	4¼"
2¾"	**L-883**	3⅜"	3 13/16"	2¼"	4½"
2 15/16"	**L-943**	3¾"	4 1/16"	2⅜"	4⅞"
3⅛"	**L-1003**	3⅞"	4 9/32"	2⅜"	5"

Larger Sizes Available on Special Order.

517-LDH Set. Consists of one each of above 17 sockets.

▲ Federal Specs: GGG-W-641D applies to all items on this page indicated by this symbol ▲.



STUD REMOVERS AND RESETTERS

▲ Ⓐ COLLET-TYPE REMOVERS AND RESETTERS

These powerful tools are available in three different series to handle studs ranging from No. 10 to 5/8" in diameter. The tapered collets thread on the studs and slip into the housing of the unit. Tightening the bolt on top draws the collet into the housing, locking the puller onto the stud with a slip-proof grip. Because this grip does not damage the threads a stud may be reset.

The collets will work on a stud if only two or three threads are exposed or remain on the broken end. Smooth studs or dowels may be threaded with the correct size die and then removed in the usual manner. The standard housing is 1 3/8" diameter and fits any 1 1/8" wrench.

STANDARD SIZE PULLER SETS

CG-515-B Complete Set. Contains the CG-500-2 Housing and 500-series collets except CG-500-17 and CG-500-18. Has a range of 1/4" to 5/8". Complete in metal box KRA-150.

CG-515 Set. Above set without the box.

CG-500 Set. Contains the CG-500-2 Housing and the CG-500-8, CG-500-10 and CG-500-12 collets. For use on 3/8"-24, 7/16"-20 and 1/2"-20 threads.

HOUSING AND COLLETS

Size	Stock No.
Housing	**CG-500-2**
10-24	**CG-500-17**
10-32	**CG-500-18**
1/4"-20	**CG-500-3**
1/4"-28	**CG-500-4**
5/16"-18	**CG-500-5**
5/16"-24	**CG-500-6**
3/8"-16	**CG-500-7**
3/8"-24	**CG-500-8**
7/16"-14	**CG-500-9**
7/16"-20	**CG-500-10**
1/2"-13	**CG-500-11**
1/2"-20	**CG-500-12**
9/16"-12	**CG-500-13**
9/16"-18	**CG-500-14**
5/8"-11	**CG-500-15**
5/8"-18	**CG-500-16**

Note: Larger sizes for bolts up to 3" diameter are available.

▲ Ⓑ SERRATED COLLETS

Designed for use with CG-500-2 Housing to remove plain or broken 1/4" to 1/2" studs. The serrated gripping portions of these collets differ from our standard collets which are threaded. These collets are necessary for removing smooth walled studs which cannot be removed with standard collets due to the lack of gripping surface.

CG-500-20 1/4" Serrated Collet
CG-500-21 5/16" Serrated Collet
CG-500-22 3/8" Serrated Collet
CG-500-23 7/16" Serrated Collet
CG-500-24 1/2" Serrated Collet

Ⓔ MULTI-SPLINE EXTRACTOR SET

REX-10 Extractor Set. Consists of one each of the extractors listed below. Multi-Spline construction combines great strength and a secure grip on bolts to be removed. A shoulder located directly above the spline section provides a "seat" for bolts or studs to force against, thus increasing the grip and preventing the bolt from expanding. Bolts and studs being removed do not wedge on the extractors, but can normally be removed with the fingers after operation is completed. The extractor has a 1/4" hexagon end to fit a socket or other wrench.

Number	Size	Mark	Number	Size	Mark
REX-104	1/8"	**A**	**REX-109**	9/32"	**F**
REX-105	5/32"	**B**	**REX-110**	5/16"	**G**
REX-106	3/16"	**C**	**REX-111**	11/32"	**H**
REX-107	7/32"	**D**	**REX-112**	3/8"	**I**
REX-108	1/4"	**E**	**REX-113**	13/32"	**J**

Ⓒ BROKEN SCREW, STUD OR PIPE EXTRACTORS

▲ **E-1020 Extractor Set.** Complete in E-1020B case as shown above. Contains one each of all the Drill Guides, Extractors and Special Drills listed at right. Extractors can be made up to 1" below surface.

These tools are straight from end to end . . . when driven into a drilled hole in the broken unit, they grip without reaming or slipping, and furthermore, will not expand or distort sidewalls of holes no matter how thin or how far the tool is driven in. Tightly embedded broken threaded ends can now be drilled out to thin walled shells, safely seized with one of these tools and easily turned out. This is the only basically correct method of doing the job . . . tapered extractors often expand the broken unit making it bind tighter than it did before.

3 STEPS IN EXTRACTING

1. A small hole is first drilled in the broken screw; if the screw is broken below the surface the correct size guide is used to center the drill.
2. The hole is enlarged to proper size to accept the extractor tool . . . correct drill sizes are shown under "Extractors."
3. The drill is removed and the extractor is driven into the drill hole. The broken end can then be turned out easily and quickly.

DRILL GUIDES

No.	O.D.	I.D.	Use Drill
E- 921	9/32"	1/8"	1/8"
E-1021	5/16"	1/8"	1/8"
E-1121	11/32"	1/8"	1/8"
E-1221	3/8"	1/8"	1/8"
E-1321	13/32"	3/16"	3/16"
E-1421	7/16"	3/16"	3/16"
E-1521	15/32"	3/16"	3/16"
E-1621	1/2"	3/16"	3/16"
E-1721	17/32"	1/4"	1/4"
E-1821	9/16"	1/4"	1/4"

SCREW EXTRACTORS

No.	Screw Dia.	Use Drill	Lgth
E-1	1/4"	1/8"	2 5/16"
E-2	5/16"	3/16"	2 3/4"
E-3	3/8"	1/4"	3 1/16"
E-4	7/16"	5/16"	3 5/16"
E-5	1/2-9/16"	11/32"	3 3/4"

Each extractor has a special hexagon nut for convenient turning with a standard wrench.

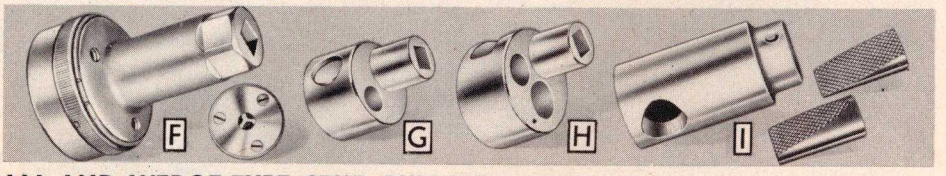
FRACTIONAL DRILLS

Stock No. Size	Overall Length
DBE-1/8"	2 3/4"
DBE-3/16"	3 1/2"
DBE-1/4"	4"
DBE-5/16"	4 11/16"
DBE-11/32"	4 7/8"

Ⓓ TAPER-BIT SCREW EXTRACTOR SET

SR-40-K Screw Extractor Set. Tapered end of these extractors has a left hand twist which tends to bite deeper into the drilled stud as the extractor is turned. Tapping the extractor with a hammer drives it into the hole and the left hand twist often breaks the stud loose and makes it easier to turn out. The square shaft permits use of a wrench. Four sizes in C-47B kit bag.

SR-4 1/8" Screw Extractor
SR-10 9/64" Screw Extractor
SR-14 7/32" Screw Extractor
SR-20 5/16" Screw Extractor



CAM AND WEDGE-TYPE STUD PULLERS

▲ Ⓕ **A-80A Stud Puller.** Patent No. 2,613,564. Capacity 1/4" to 1/2". Three jaws built into the tool automatically close to stud size and grip when pressure is applied . . . release the pressure and the jaws release providing a "built in" ratchet action. Needs only 1" clearance between stud any any obstruction, 1/2" protrusion of stud provides a good grip, long studs can run through the top opening. Use with 1/2" square drive handle or 1" wrench.

▲ Ⓖ **A-50 Stud Remover.** 7/16" to 1/2" capacity. "V" shaped racks grip the stud as the unit is turned. Use 1/2" square drive handle. Grip releases when pressure is relieved. Consists of three parts, A-50-2, A-50B-1 and A-50-3B.

A-50-2 Housing only
A-50B-1 Driving Gear
A-50-3B Rack 7/16" — 1/2" capacity
A-50-4B Rack 5/16" — 3/8" capacity
A-54 Stud Remover. 5/16" to 1/2" capacity. Consists of A-50 and A-50-4B.

▲ Ⓗ **A-36 Stud Remover.** 1/2" to 3/4" capacity. Knurled alloy steel wheel grips soft or hardened studs. The driving shank extends through both sides of the housing to provide a bearing surface on each side of the wheel and prevent binding. Use with 1/2" square drive handle.

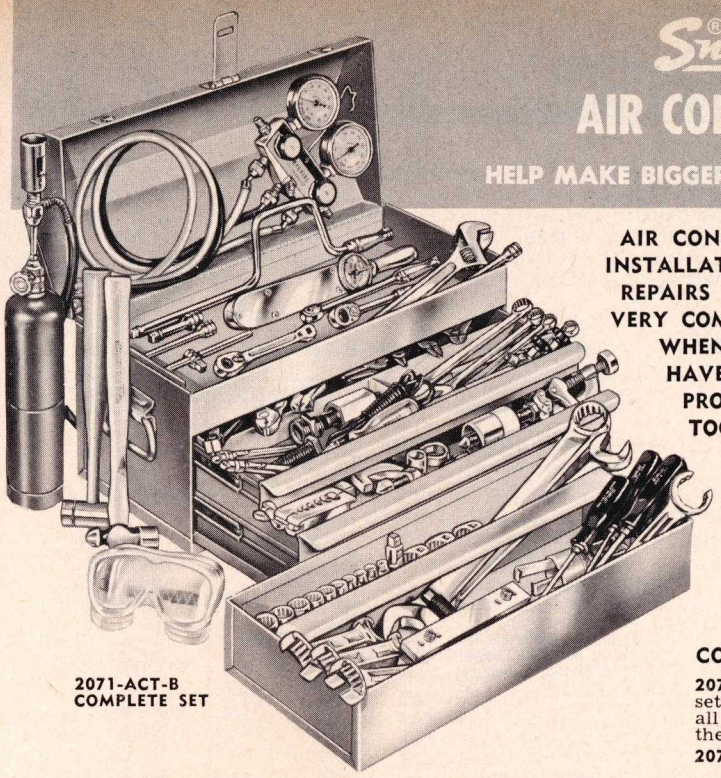
A-36-1 ..... Stud Remover Housing only.
A-36-2 ..... Stud Remover Driving Shank.
A-36-3 ..... Stud Remover Gripping Wheel.

▲ Ⓘ **LA-55A Heavy Duty Stud Puller.** 9/16" to 1" capacity. Works on the wedge principle: grip can be released by turning tool in reverse direction. Tool is machined from alloy steel. Two sizes of steel wedges included with the unit are heat treated to extreme hardness and are cross milled to assure a firm grip on the studs. Use with 3/4" square drive wrench handle.

▲ **Federal Specs: GGG-E-936 applies to the E-1020 Extractor Set shown above.**
GGG-S-775a applies to the Cam and Wedge-Type Stud Pullers indicated above by the symbol ▲.

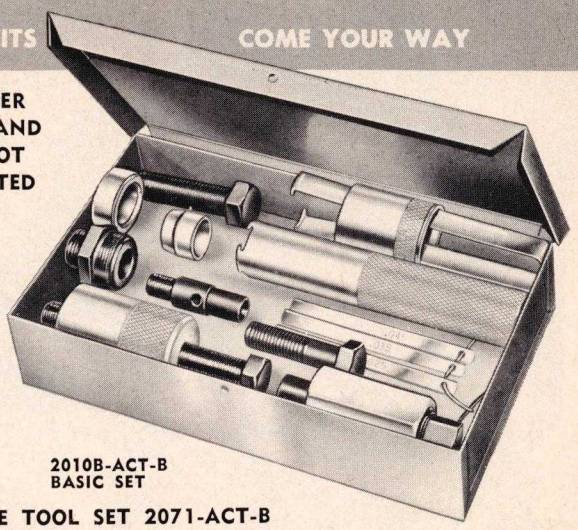
Snap-on AUTOMOTIVE AIR CONDITIONER SERVICE SETS

HELP MAKE BIGGER PROFITS COME YOUR WAY



2071-ACT-B
COMPLETE SET

AIR CONDITIONER INSTALLATIONS AND REPAIRS ARE NOT VERY COMPLICATED WHEN YOU HAVE THE PROPER TOOLS



2010B-ACT-B
BASIC SET

COMPLETE TOOL SET 2071-ACT-B

2071-ACT-B Complete Air Conditioner Tool Set. As shown above at left, this set includes all of the items included in the 2021-ACT Special Tool Set and all of the standard tools listed at the bottom of the page. The set includes the KRA-21 Mechanikit Tool Chest (Page 11).

2071-ACT Set. Above set without tool chest.

BASIC TOOL SETS

2010B-ACT Basic Set. Includes the following items.

- (A) **ACT-1 Shaft Seal Remover and Installer** for servicing the air compressor seal — tubular shape, 6″ long, with knurled portion for secure grip.
- (B) **ACT-2 Rotor Plate and Pulley Installer** for GM products from 1953 through 1961 — 1¼″ hex shaped body with a left hand threaded installer screw.
- (C) **ACT-3 Clutch Drive Plate Installer Adaptor** threads into the screw of the ACT-2 for use on 1962 through 1965 GM products.
- (D) **ACT-4 Shaft Seal Pilot Bushing** prevents damaging seals during installation.
- (E) **ACT-5 Rotor Plate Puller** for 1953 through 1961 GM products — 4½″ screw, tubular body has knurled portion for a firm grip.
- (F) **ACT-6 Clutch Drive Plate Puller Adaptor** used with ACT-5 on GM products 1959 through 1965 — 1¼″ hex shape center, both ends threaded.
- (G) **ACT-7 Spacer** used with the ACT-2 to install rotor plate and hub on GM products up to 1961.
- (H) **ACT-8A Shaft Seal Seat Remover and Installer** for use on GM products — 5½″ long, tong shaped tool.
- (J) **ACT-9 Rotor Plate Clearance Gauge Set** consists of ring holder with three, non-magnetic, 4″ long feeler gauge blades sizes: .025″, .035″, and .045″.
- (K) **ME-3A-13 Bolt** for removing the drive pulley and clutch from Ford and Chrysler products.
- (L) **ME-3A-19 Bolt** for removing the drive pulley and clutch from some Chrysler products.

2010B-ACT-B Set. Above set complete in the KRA-40 Metal Box.

2011B-ACT Set. Same tools as above plus (M) the CJ-80 Puller (page 122).

2011B-ACT-B Set. Above set with the KRA-40 Metal Box.

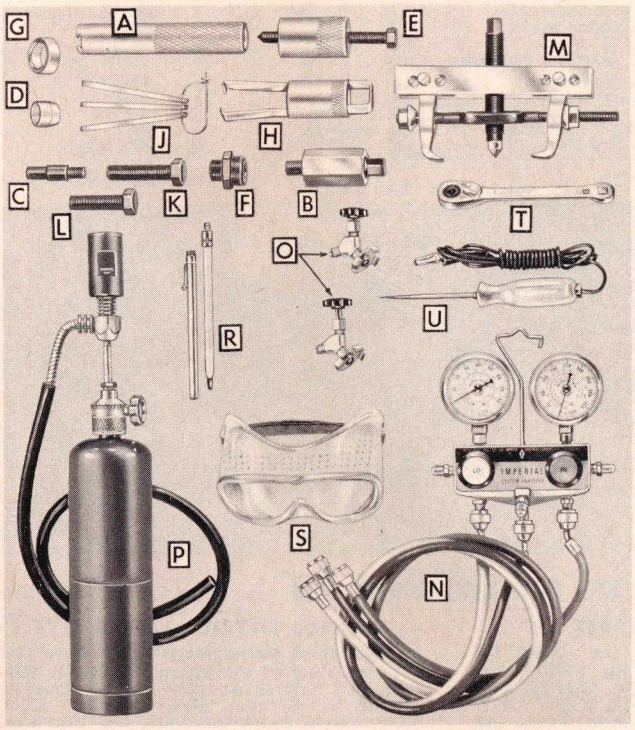
SPECIAL TOOL SET

2021-ACT Special Tool Set. Includes all the tools listed in the above sets plus the following:

- (N) **GA-274 System Analyzer.** Used for testing, charging, purging, and adding oil to the air conditioner system. Hoses are color coded.
- (O) **GA-275 Tap-A-Can Dispenser Valve.** (2 required.)
- (P) **GA-278 Leak Detector.** Flame changes color when suction hose locates Freon and other halide gas leaks. Do not use where combustible or explosive gases, dusts or vapors are present.
- (R) **GA-134 Thermometer.** 20° to 240° F range. Also useful for checking thermostats radiators, heat indicators, oil and transmission fluid and when charging batteries. Metal case has pocket clip and ring.
- (S) **GAC-1070 Safety Goggles.** Sturdy plastic lens conforms to Federal strength and piercing specifications. Soft form-fitting plastic frame fits comfortably and is vented to prevent steaming up.
- (T) **R-70B Ratchet.** Has ¼″ reversible ratchet head, a ½″ single hex, 5/16″ square and 3/16″ square wrench openings. See page 65.
- (U) **CT-4B Circuit Tester.** See page 95.

GA-277 Hose. (Not illustrated.) For use with the GA-274 System Analyzer when used to purge systems. 36″ long, green color.

GA-279 Instruction Manual.



ABOVE: PICTURE SHOWS TOOLS INCLUDED IN 2021-ACT SET

GA-279 Automotive Air Conditioning Service Procedures Manual. Authoritative and unbiased . . . published by University of Texas Industrial Education Department. Analyzes the four basic elements of all systems, explains operational checks and adjustments and charts, malfunctions, and remedies.

VE-112 Display Board. (Optional, not shown.) For the 2021-ACT Set. 24″ x 32″ x ¾″. Has white tool outlines on red background.

STANDARD TOOLS INCLUDED IN THE 2071-ACT AIR CONDITIONER SERVICE SET

Number	Description	Page	Number	Description	Page	Number	Description	Page
87	Diagonal Cutter	82	HCP-50	Hose Clamp Plier	84	PRS-26	Ext. Lock Ring Plier, 9¼″	104
137	Combination Pliers	81	OEX-16	½″ Combination Wrench	72	RXH-2432	¾ & 1″ Flare Nut Wrench, 2 Incl.	66
219-FP	Ferret Wrench Set, ⅜″ Drive	39	OEX-18	9/16″ Combination Wrench	72	RXH-2836	⅞″ & 1⅛″ Flare Nut Wrench, 2 Incl.	66
BH-16	Brass Hammer	84	OEX-20	⅝″ Combination Wrench	72	SSD-4	¼″ Tip Screwdriver, 4″ Blade	76
BP-8	Ball Peen Hammer	84	OEX-24	¾″ Combination Wrench	72	SSD-6	5/16″ Tip Screwdriver, 6″ Blade	76
D-710	10″ Adjustable Wrench	69	OEX-30	15/16″ Combination Wrench	72	SSDP-42	No. 2 Phillips Screwdriver, 4″ Blade	77
FRH-140S	7/16″ Hex Crowfoot Wrench	66	OEX-40	1¼″ Combination Wrench	72	TC-28	Tubing Cutter, ⅛″ to 1″	67
FRH-180S	9/16″ Hex Crowfoot Wrench	66	PRS-21	Int. Lock Ring Plier, 5/16″	104	TC-123	Tubing Cutter, ⅛″ to ½″	67
FRH-200S	⅝″ Hex Crowfoot Wrench	66	PRS-22	Ext. Lock Ring Plier, 5⅝″	104	TF-7A	Tube Flaring Tool	67
FRH-240S	¾″ Hex Crowfoot Wrench	66	PRS-23	Int. Lock Ring Plier, 6 9/16″	104	TQ-50AF	Torqometer, 50 ft. lb. cap. ⅜ dr.	26

Snap-on COMPLETE TOOL SETS FOR USE ON BRITISH AND EUROPEAN CARS



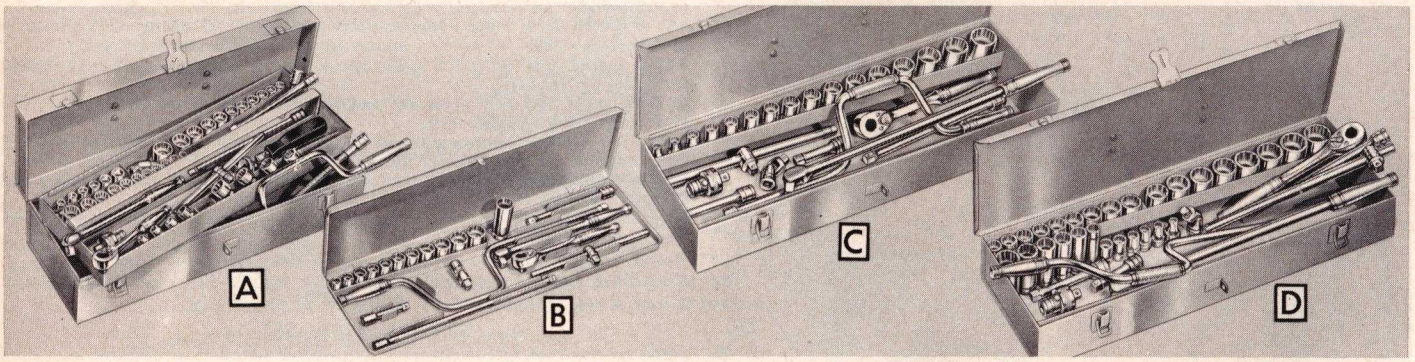
These BIG tool sets help speed work since they contain a wide range of tools. Included are SNAP-ON socket wrenches and handles, combination and "Box-ocket" wrenches, pliers, screwdrivers, valve tools, hammers, chisels and punches. Housed in the famous KRA-56A metal tool chest with 6 drawers and lock so your tools are protected. The ideal tool sets for many kinds of work.

5193-GM-B Metric Service Tool Set consisting of 193 tools as listed to right in KRA-56A Metal Chest.

5124-GW-B British Standard Service Tool Set consisting of 124 tools as listed to right in KRA-56A Metal Chest.

Contents of 5193-GM-B Set and 5124-GW-B Set

Set or Tool Description	METRIC 5193 GM-B Set	BRITISH STD. 5124 GW-B Set
Midget Socket Wrenches	114-MTM-B Set	108-WTM-B Set
Ferret Socket Wrenches	249-MF Set	224-WF Set
Master Socket Wrenches	338-MM Set	321-MW Set
Combination Wrenches	OEXM-721 Set	WOEXS-707 Set
Open End Wrenches	. . . . .	VSB-809 Set
Long Boxocket Wrenches	XM-614 Set	. . . . .
Dwarf Boxocket Wrenches	XSM-608 Set	WXS-606 Set
Punches and Chisels	PPC-200-K Set	PPC-200-K Set
Phillips Screw Drivers	SSDP-50 Set	SSDP-50 Set
Standard Screw Drivers	SSDS-50 Set	SSDS-50 Set
Spark Test Screw Driver	SSD-145	SSD-145
Screw Starter	SS-5	SS-5
4 oz. Ball Peen Hammer	BP-4	BP-4
12 oz. Ball Peen Hammer	BP-12	BP-12
1 lb. Plastic Tip Hammer	92-PH	92-PH
Hack Saw Frame	HS-8	HS-8
Wire Brush	AC-58-B	AC-58-B
5" Gripping Plier	No. 50C	No. 50C
7½" Gripping Plier	No. 47	No. 47
7" Needle Nose Plier	No. 196	No. 196
7¼ Diagonal Cutter	No. 87	No. 87
7¾ Battery Plier	No. 208A	No. 208A
Carbon Scraper	CS-1	CS-1
16" Pry Bar	No. 1650	No. 1650
Spark Plug Gap Gauge	FB-301	FB-301
Feeler Gauge	FB-326	FB-326
Ignition Point File	HB-5	HB-5
Spark Plug Socket	S-9704D	S-9704D
Cotter Pin Puller	CP-3A	CP-3A
Tool Chest	KRA-56A	KRA-56A



A HIGH QUALITY Snap-on TOOL SET FOR EVERY SIZE JOB

MIDGET - ¼" SQUARE DRIVE SETS

114-MTM-B Metric Midget Set. Includes TM-70B Ratchet, TM-10F Nut Spinner, TMX-4 Extension Bar, 111-MTM Socket Set and KRA-222B Box.

108-WTM-B British-Standard Set. Includes TM-70B Ratchet, TM-10F Nut Spinner, TMX-4 Extension Bar, 105-WTM Socket Set, KRA-222B Box.

49-PIECE METRIC FERRET SET

Ⓐ **249-MF-B Metric Ferret (⅜" Drive) Set.** Includes: F-710B Ratchet, F-67B Ratchet Adaptor, FRS-70 Ratchet Spinner, F-4LA Speeder, F-10LB Nut Spinner, F-40A Handle, F-5L Slide Bar, FX-61 Flextension, FX-2, FX-6, FX-11 Extension Bars, FU-8A Universal, 211-FM Socket Set, 211-SFM Socket Set, 206-FSM Socket Set, 209-FUM Flexocket Set and KRA-250 Box.

249-MF Set. Same as above but without box.

24-PIECE BRITISH-STD FERRET SET

Ⓐ **224-WF-B British-Standard ferret (⅜" Drive) Set.** Includes: F-710B Ratchet, F-67B Ratchet Adaptor, FRS-70 Ratchet Spinner, F-4LA Speeder, F-10LB Nut Spinner, F-40A Handle, F-5L Slide Bar, FX-61 Flextension, FX-2, FX-6, FX-11 Extension Bars, FU-8A Universal, 212-WF Socket Set, and KRA-250 Box.

224-WF Set. Same as above but without box.

20-PIECE METRIC FERRET SET

Ⓑ **220A-M-B Metric Ferret (⅜" Drive) Set** consisting of the following: F-710B Ratchet, F-4L Speeder Handle, F-10LB Nut Spinner, F-5L Slide Bar, FX-2, FX-6, FX-11 Extension Bars, FU-8A Universal Joint and 11 Double Hex Sockets, F-9M through F-19M and SF-261 14 mm, spark plug socket all packed in the KRA-281 Metal Box as illustrated.

220A-M. Same Set as above but without box.

21-PIECE BRITISH-STD FERRET SET

Ⓑ **221A-W-B British-Standard Ferret (⅜" Drive) Set** consisting of the following: F-710B Ratchet, F-4L Speeder Handle, F-10LB Nut Spinner, F-5L Slide Bar, FX-2, FX-6, FX-11 Extension Bars, FU-8A Universal Joint, 12 Double Hex Sockets WF-94 through WF-104 and SF-261 spark plug socket, all packed in the KRA-281 Metal Box as illustrated.

221A-W. Same Set as above but without box.

25-PIECE METRIC MASTER SETS

Ⓒ **325-MM-B Metric Master (½" Drive) Set** consisting of the following: SL-710 Ratchet, 67-C Ratchet Adaptor, S-4 Nut Speeder, SN-18A Nut Spinner, S-12L Slide Bar, SX-3, SX-5, SX-10 Extension Bars, S-8 Universal Joint and 16 Double Hex Sockets SW-10M through SW-25M all packed in the KRA-280 Metal Box as illustrated.

325-MM. Same Set as above but without box.

21-PIECE BRITISH-STD MASTER SETS

Ⓒ **321-MW-B British-Standard Master (½" Drive) Set** consisting of the following: SL-710 Ratchet, 67-C Ratchet Adaptor, S-4 Nut Speeder, SN-18A Nut Spinner, S-12L Slide Bar, SX-3, SX-5, SX-10 Extension Bars, S-8 Universal Joint and 12 Double Hex Sockets WSW-96A through WSW-108 all packed in the KRA-280 Metal Box.

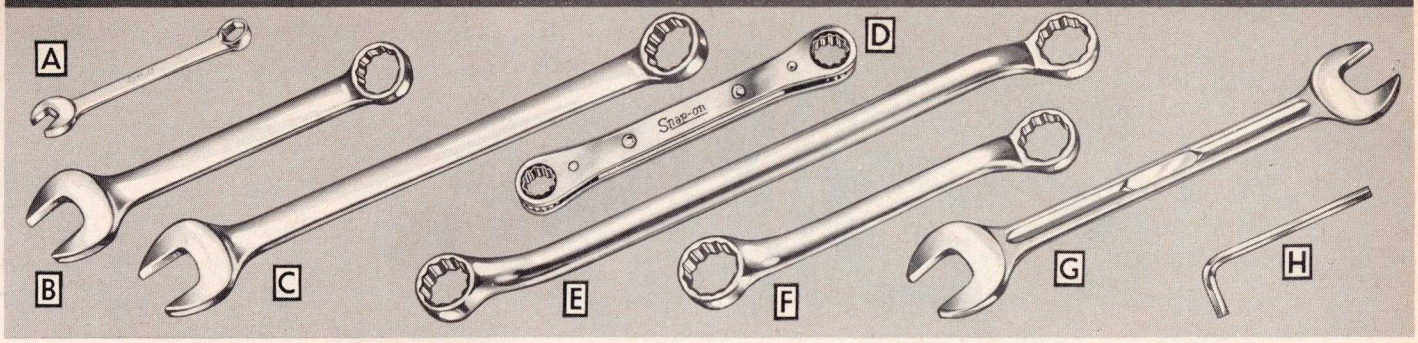
321-MW. Same Set as above but without box.

38-PIECE METRIC MASTER SETS

Ⓓ **338-MM-B Metric Master (½" Drive) Set** consisting of the following: SL-710 Ratchet, 67-C Ratchet Adaptor, S-4 Nut Speeder, SN-18A Nut Spinner, S-12L Slide Bar, SX-3, SX-5, SX-10 Extension Bars, S-8 Universal Joint, 23 Double Hex Sockets SW-10M through SW-32M and 6 Deep Double Hex Sockets S-14M through S-27M all packed in the KRA-280 Metal Box as illustrated.

338-MM. Same Set as above but without box.

METRIC AND BRITISH STANDARD WRENCHES AND SETS



METRIC WRENCHES AND SETS — HEX OPENINGS ARE FLANK DRIVE

FLANK DRIVE COMBINATION WRENCHES

Ⓐ MIDGET SERIES

Size	Number	Length
†6 mm.	**OEX-6M**	3″
†7 mm.	**OEX-7M**	3¼″
†8 mm.	**OEX-8M**	3½″
†9 mm.	**OEX-9M**	3⅝″

OEXM-704-K Set. Above 4 wrenches in C-41D kit bag.

OEXM-704 Set. Above set, tools only.

FLANK DRIVE COMBINATION WRENCHES

Ⓑ SHORT SERIES

Size	Number	Length
†10 mm.	**OEX-10M**	5¼″
†11 mm.	**OEX-11M**	5⅜″
†12 mm.	**OEX-12M**	5¾″
†13 mm.	**OEX-13M**	5¾″
†14 mm.	**OEX-14M**	6″
†15 mm.	**OEX-15M**	6⅛″
†16 mm.	**OEX-16M**	6¼″
†17 mm.	**OEX-17M**	6⅜″
†18 mm.	**OEX-18M**	6⅝″

OEXM-709-K Set. Above 9 wrenches in C-94 kit bag.

OEXM-709 Set. Above set, tools only.

FLANK DRIVE COMBINATION WRENCHES

Ⓒ LONG SERIES

Size	Number	Length
12 mm.	**OEX-120M**	$7^{11}/_{16}$″
13 mm.	**OEX-130M**	$7^{11}/_{16}$″
14 mm.	**OEX-140M**	8⅜″
15 mm.	**OEX-150M**	8¾″
16 mm.	**OEX-160M**	8¾″
17 mm.	**OEX-170M**	9¼″
18 mm.	**OEX-180M**	9¼″
†19 mm.	**OEX-19M**	9¾″
†20 mm.	**OEX-20M**	11″
†21 mm.	**OEX-21M**	11″
†22 mm.	**OEX-22M**	11⅞″
†23 mm.	**OEX-23M**	13⅛″
†24 mm.	**OEX-24M**	13⅛″
†27 mm.	**OEX-27M**	15″
†32 mm.	**OEX-32M**	16⅞″

OEXM-715-K Set. Above 15 wrenches in C-150B kit bag.

OEXM-715 Set. Above set, tools only.

OEXM-721 Set. The 21 Metric Combination Wrenches above and at left, indicated by the symbol †.

FLANK DRIVE Ⓓ RATCHETING BOXOCKETS

Sizes in mm.	Stock No.	Length
10 & 11	**RBM-1011**	5½″
12 & 13	**RBM-1213**	$6^{31}/_{32}$″
14 & 16	**RBM-1416**	8″
17 & 19	**RBM-1719**	$7^{27}/_{32}$″

FLANK DRIVE BOXOCKET WRENCHES

Ⓕ SHORT SERIES

Sizes in mm.	Stock No.	Length
6 & 7	**XS-67M**	4⅜″
8 & 9	**XS-89M**	4⅞″
9 & 10	**XS-910M**	4¾″
11 & 12	**XS-1112M**	$5^{5}/_{13}$″
13 & 14	**XS-1314M**	5½″
15 & 16	**XS-1516M**	$5^{27}/_{32}$″
17 & 19	**XS-1719M**	6⅜″
18 & 20	**XS-1820M**	6⅝″

XSM-608-K Set. 8 Wrenches, XS-67M through XS-1820M in C-80D kit bag.

XSM-608 Set. Above set, tools only.

Ⓗ METRIC HEX HEAD WRENCHES

Number	Size
AWM-2B	2 mm.
AWM-2½B	2.5 mm.
AWM-3B	3 mm.
AWM-4B	4 mm.
AWM-5B	5 mm.
AWM-6B	6 mm.
AWM-8B	8 mm.
AWM-10B	10 mm.
AWM-12B	12 mm.
AWM-14B	14 mm.
AWM-17B	17 mm.
AWM-19B	19 mm.

AWM-120C-K Set. 12 Metric hex head wrenches, AWM-2B through AWM-19B, in C-84B kit bag.

AWM-90B-K Set. 9 Metric hex head wrenches, AWM-2B through AWM-12B, in the C-15B kit bag.

FLANK DRIVE BOXOCKET WRENCHES

Ⓔ LONG SERIES

Sizes in mm.	Stock No.	Length	Sizes in mm.	Stock No.	Length
8 & 10	**X-810M**	8″	20 & 21	***X-2021M**	$12^{7}/_{32}$″
10 & 11	***X-1011M**	8¼″	22 & 23	***X-2223M**	12½″
11 & 14	**X-1114M**	8¾″	22 & 24	**X-2224M**	12⅞″
12 & 13	***X-1213M**	9¼″	24 & 25	***X-2425M**	13⅛″
12 & 14	**X-1214M**	8¾″	24 & 27	**X-2427M**	14″
13 & 15	**X-1315M**	9¼″	26 & 27	***X-2627M**	$14^{19}/_{32}$″
14 & 15	***X-1415M**	9⅜″	27 & 32	***X-2732M**	16⅛″
14 & 17	***X-1417M**	9⅝″	28 & 29	***X-2829M**	$15^{3}/_{16}$″
16 & 17	***X-1617M**	10″	30 & 32	***X-3032M**	$15^{15}/_{16}$″
18 & 19	***X-1819M**	11½″	31 & 32	***X-3132M**	$16^{11}/_{32}$″

XM-614-K Metric Long Series Boxocket Wrench Set. 14 wrenches, one of each of above marked with an asterisk (*) in C-141B kit bag.

XM-614 Set. Above set, tools only.

Ⓖ OPEN END WRENCHES

Sizes in mm.	Stock No.	Length	Sizes in mm.	Stock No.	Length
6 & 7	***VSM-67**	$4^{1}/_{32}$″	17 & 19	***VSM-1719**	8⅜″
8 & 9	**VSM-89**	4½″	20 & 22	***VSM-2022**	10″
8 & 10	***VSM-810**	4½″	21 & 23	***VSM-2123**	11″
9 & 11	***VSM-911**	5″	22 & 24	**VSM-2224**	11½″
11 & 14	**VSM-1114**	$5^{11}/_{16}$″	24 & 26	***VSM-2426**	12½″
12 & 13	***VSM-1213**	5½″	24 & 27	**VSM-2427**	12½″
12 & 14	**VSM-1214**	6″	25 & 28	***VSM-2528**	12½″
13 & 15	**VSM-1315**	6¼″	27 & 29	***VSM-2729**	13¼″
14 & 15	***VSM-1415**	6½″	27 & 32	**VSM-2732**	14″
14 & 17	**VSM-1417**	6½″	28 & 32	**VSM-2832**	14″
16 & 18	***VSM-1618**	7″	30 & 32	***VSM-3032**	14″

OEM-813-K Metric Open End Wrench Set. 13 wrenches, one of each of above marked with an asterisk (*), in C-135B kit bag.

OEM-813 Set. Above set, tools only.

BRITISH STANDARD WRENCHES

Ⓑ COMBINATION WRENCHES SHORT SERIES

British Bolt Size	Stock Number	Length
3/16″	**WOEX-6A**	5¼″
1BA	**WOEX-70**	5¼″
0BA	**WOEX-80**	5⅜″
¼″	**WOEX-90**	5⅜″
5/16″	**WOEX-100**	6″
⅜″	**WOEX-110**	6¼″
7/16″	**WOEX-120**	6½″

WOEXS-707-K British Standard Short Combination Wrench Set. 7 wrenches, WOEX-6A through WOEX-120 in C-74D kit bag.

WOEXS-707 Set. Above set without the kit bag.

Ⓒ COMBINATION WRENCHES LONG SERIES

British Bolt Size	Stock Number	Length
5/16″	**WOEX-10**	8¼″
⅜″	**WOEX-11**	8⅝″
7/16″	**WOEX-12**	9¾″
½″	**WOEX-13**	11″

WOEXL-704 British Standard Long Combination Wrench Set. 4 wrenches, WOEX-10 through WOEX-13.

MAKE Snap-on YOUR HEADQUARTERS FOR ALL YOUR MECHANIC WRENCHES AND TOOLS

Ⓕ BOXOCKET WRENCHES SHORT SERIES

British Bolt Size	Stock Number	Length
3/16″ & ¼″	**WXS-6A9**	4⅞″
¼″ & 5/16″	**WXS-910**	$5^{5}/_{16}$″
5/16″ & ⅜″	**WXS-1011**	$5^{5}/_{16}$″
⅜″ & 7/16″	**WXS-1112**	6¼″
7/16″ & ½″	**WXS-1213**	$6^{11}/_{16}$″
½″ & 9/16″	**WXS-1314**	$8^{5}/_{16}$″

WXS-606-K British Standard Short Boxocket Wrench Set. 6 wrenches, WXS-6A9 through WXS-1314 in C-62B kit bag.

WXS-606 Set. Above set without the kit bag.

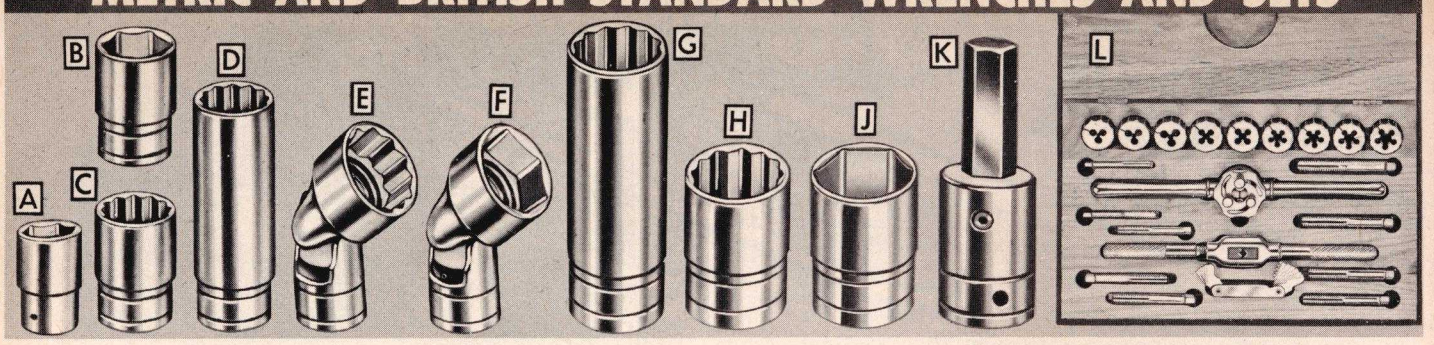
Ⓖ OPEN END WRENCHES

British Bolt Size	Stock Number	Length
3/16″ & ¼″	**VSB-68**	5⅛″
¼″ & 5/16″	**VSB-810**	6¼″
5/16″ & ⅜″	**VSB-1012**	$6^{13}/_{16}$″
⅜″ & 7/16″	**VSB-1214**	8″
7/16″ & ½″	**VSB-1416**	10¼″
½″ & 9/16″	**VSB-1618**	10¼″
9/16″ & ⅝″	**VSB-1820**	12½″
⅝″ & 11/16″	**VSB-2022**	13⅜″
11/16″ & ⅞″	**VSB-2228**	14¼″

VSB-809-K British Standard Open End Wrench Set. 9 wrenches, VSB-68 through VSB-2228 in C-91B kit bag.

VSB-809 Set. Above set without the kit bag.

METRIC AND BRITISH STANDARD WRENCHES AND SETS



METRIC SOCKET WRENCHES AND SETS

Handles to fit the sockets listed on this page may be located as follows.

¼" square drive on pages 32–33.

⅜" square drive on pages 34–35.

½" square drive on pages 40–41.

FLANK DRIVE ¼" SQ. DRIVE Ⓐ SINGLE HEX

Size	Number
4 mm.	*TM-4M
5 mm.	*TM-5M
6 mm.	*TM-6M
7 mm.	TM-7M
8 mm.	TM-8M
9 mm.	TM-9M
10 mm.	TM-10M
11 mm.	TM-11M
12 mm.	TM-12M
13 mm.	TM-13M
14 mm.	TM-14M

* Regular (not Flank Drive) broached.

111-MTM ¼" Drive Single Hex Set. 11 sockets, TM-4M to TM-14M.

FLANK DRIVE ⅜" SQ. DRIVE Ⓑ SINGLE HEX

Size	Number
6 mm.	FSM-6
7 mm.	FSM-7
8 mm.	FSM-8
9 mm.	FSM-9
10 mm.	FSM-10
11 mm.	FSM-11
12 mm.	FSM-12
13 mm.	FSM-13
14 mm.	FSM-14
15 mm.	FSM-15
16 mm.	FSM-16
17 mm.	FSM-17
18 mm.	FSM-18
19 mm.	FSM-19
20 mm.	FSM-20
21 mm.	FSM-21
22 mm.	FSM-22

206-FSM. ⅜" Drive Single Hex Set. 6 hex sockets. FSM-9 to FSM-14.

217-FSM. ⅜" Drive Single Hex Set. 17 sockets FSM-6 to FSM-22.

Metric sizes of Valve Guide Pilots are listed on page 126.

FLANK DRIVE ⅜" SQ. DRIVE Ⓒ DOUBLE HEX

Size	Number
9 mm.	F-9M
10 mm.	F-10M
11 mm.	F-11M
12 mm.	F-12M
13 mm.	F-13M
14 mm.	F-14M
15 mm.	F-15M
16 mm.	F-16M
17 mm.	F-17M
18 mm.	F-18M
19 mm.	F-19M
20 mm.	F-20M
21 mm.	F-21M
22 mm.	F-22M

211-FM-T ⅜" Drive Double Hex Set. 11 sockets, F-9M to F-19M in KTA-230 metal tray.

211-FM Set. The above set without the tray.

214-FM Set. The 14 sockets listed above.

FLANK DRIVE ⅜" SQ. DRIVE Ⓓ DEEP DOUBLE HEXAGON

Size	Number
9 mm.	SF-9M
10 mm.	SF-10M
11 mm.	SF-11M
12 mm.	SF-12M
13 mm.	SF-13M
14 mm.	SF-14M
15 mm.	SF-15M
16 mm.	SF-16M
17 mm.	SF-17M
18 mm.	SF-18M
19 mm.	SF-19M

211-SFM-T ⅜" Drive Deep Double Hex Set. 11 Sockets, SF-9M to SF-19M, in KTA-231B metal tray.

211-SFM Set. Above set, tools only.

The Metric sockets listed on this page have the new SNAP-ON "Flank-Drive" hex broaching described on page 5.

FLANK DRIVE ⅜" SQ. DRIVE HEX FLEXOCKETS Ⓕ SINGLE HEX

Size	Number
10 mm.	FSU-10M
11 mm.	FSU-11M

Ⓔ DOUBLE HEX

12 mm.	FU-12M
13 mm.	FU-13M
14 mm.	FU-14M
15 mm.	FU-15M
17 mm.	FU-17M
19 mm.	FU-19M
22 mm.	FU-22M

209-FUM-B ⅜" Drive Flexocket Set. 9 sockets, FSU-10M to FU-22M in KRA-229 metal box.

209-FUM. The above set without box.

FLANK DRIVE ½" SQ. DRIVE Ⓖ DEEP DOUBLE HEXAGON

Size	Number
14 mm.	S-14M
17 mm.	S-17M
19 mm.	S-19M
20.6 mm.	S-20.6M
22 mm.	S-22M
27 mm.	S-27M

306-SM ½" Drive Deep Double Hex Set. 6 sockets, S-14M to S-27M.

Ⓚ METRIC HEX HEAD WRENCHES

Socket Type — ⅜" Square Drive

These wrenches provide an efficient method for serving hex head cap screws encountered on various types of equipment using metric sizes.

Size	Number	Size	Number
4 mm.	FAM-4	8 mm.	FAM-8
5 mm.	FAM-5	10 mm.	FAM-10
6 mm.	FAM-6		

FLANK DRIVE ½" SQ. DRIVE Ⓗ DOUBLE HEX

Size	Number
10 mm.	SW-10M
11 mm.	SW-11M
12 mm.	SW-12M
13 mm.	SW-13M
14 mm.	SW-14M
15 mm.	SW-15M
16 mm.	SW-16M
17 mm.	SW-17M
18 mm.	SW-18M
19 mm.	SW-19M
20 mm.	SW-20M
21 mm.	SW-21M
22 mm.	SW-22M
23 mm.	SW-23M
24 mm.	SW-24M
25 mm.	SW-25M
26 mm.	SW-26M
27 mm.	SW-27M
28 mm.	SW-28M
29 mm.	SW-29M
30 mm.	SW-30M
31 mm.	SW-31M
32 mm.	SW-32M

316-SWM ½" Drive Double Hex Set. 16 sockets, SW-10M to SW-25M.

323-SWM ½" Drive Double Hex Set. 23 sockets, SW-10 to SW-32M.

FLANK DRIVE ½" SQ. DRIVE Ⓙ SINGLE HEX

Size	Number
10 mm.	TWM-101
11 mm.	TWM-111
12 mm.	TWM-121
13 mm.	TWM-131
14 mm.	TWM-141
15 mm.	TWM-151
16 mm.	TWM-161
17 mm.	TWM-171
18 mm.	TWM-181
19 mm.	TWM-191
20 mm.	TWM-201
21 mm.	TWM-211
22 mm.	TWM-221
23 mm.	TWM-231
24 mm.	TWM-241
25 mm.	TWM-251
26 mm.	TWM-261
27 mm.	TWM-271

218-TWM ½" Drive Single Hex Set. 18 sockets, TWM-101 to TWM-271.

BRITISH STANDARD SOCKET WRENCHES AND SETS

¼" SQ. DRIVE Ⓐ SINGLE HEX

British Bolt Size	Number
2BA	WTM-96
3/16"	WTM-96A
¼"	WTM-99
5/16"	WTM-100
⅜"	WTM-101

105-WTM ¼" Drive Single Hex Set. 5 sockets, WTM-96 to WTM-101.

NOTE: BRITISH BOLT SIZES WERE CHANGED IN 1951. NOMINAL WRENCH SIZES FOR BRITISH BOLTS AND NUTS SINCE 1951 ARE SHOWN BELOW

British Bolt Size	Wrench Size
4BA	.248"
3BA	.282"
2BA	.324"
3/16"	.340"
1BA	.365"
0BA	.413"
¼"	.445"
5/16"	.525"
⅜"	.600"
7/16"	.710"
½"	.820"
9/16"	.920"
⅝"	1.010"
11/16"	1.100"
¾"	1.200"
13/16"	1.200"
⅞"	1.300"

½" SQ. DRIVE Ⓗ DOUBLE HEX

British Bolt Size	Number
3/16"	WSW-96A
0BA	WSW-98
¼"	WSW-99
5/16"	WSW-100
⅜"	WSW-101
7/16"	WSW-102
½"	WSW-103
9/16"	WSW-104
⅝"	WSW-105
11/16"	WSW-106
¾" & 13/16"	WSW-107
⅞"	WSW-108

312-WSW ½" Drive Double Hex Set. 12 sockets. WSW-96A to WSW-108.

⅜" SQ. DRIVE Ⓒ DOUBLE HEX

British Bolt Size	Number
4BA	*WF-94
3BA	*WF-95
2BA	WF-96
3/16"	WF-96A
1BA	WF-97
0BA	WF-98
¼"	WF-99
5/16"	WF-100
⅜"	WF-101
7/16"	WF-102
½"	WF-103
9/16"	WF-104

*** Single Hex**

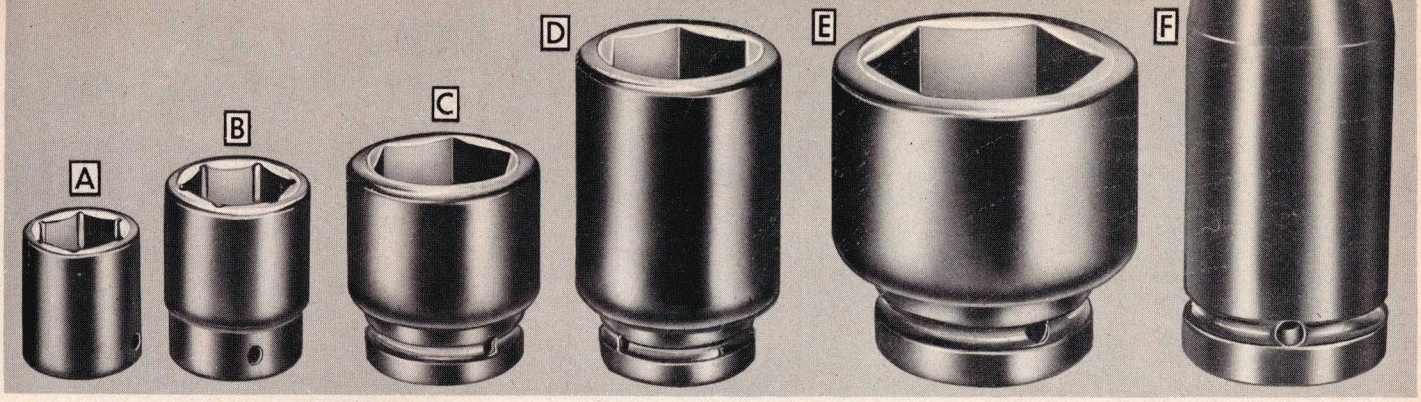
212WF ⅜" Drive Double Hex Set. 12 sockets, WF-94 to WF-104.

Ⓛ METRIC TAP AND DIE SET

TDM-109B Metric Set. Contains 9 sizes of taps and dies listed below. TD-88 Tap Wrench, TD-10 Die Stock, and TDM-100 Metric Thread Gauge, in TDM-109B-1 fitted wood case.

Stock Nos.		Size
Taps	Dies	
T-407M	D-407M	4- .70
T-508M	D-508M	5- .80
T-610M	D-610M	6-1.0
T-710M	D-710M	7-1.0
T-812M	D-812M	8-1.25
T-912M	D-912M	9-1.25
T-1015M	D-1015M	10-1.50
T-1115M	D-1115M	11-1.50
T-1217M	D-1217M	12-1.75

Snap-on® METRIC IMPACT AND POWER SOCKETS



These are black finish—industrial type sockets made expressly for electric and pneumatic impact wrenches and nut runners. Design and steel specifications together with exact control of heat treatment provides the toughness, hardness and durability necessary for this type of operation.

NOTE: The ½" square drive, standard hexagon broached, "POWER TYPE" sockets are heat treated differently to the "IMPACT TYPE" and are not recommended for use on impact wrenches. The impact series have the new "Flank" Drive hex broaching, see page 5.

Ⓐ ½" SQUARE DRIVE—IMPACT AND POWER TYPES
* FLANK DRIVE—SINGLE HEX—STANDARD LENGTH

Wrench Size	IMPACT TYPE* Stock No.	POWER TYPE Stock No.	Outside Diameter		Bolt Clearance Depth	Overall Length
			Socket End	Handle End		
10 mm	IMM-100	PM-100	5/8"	7/8"	11/16"	1½"
11 mm	IMM-110	PM-110	45/64"	7/8"	11/16"	1½"
12 mm	IMM-120	PM-120	25/32"	15/16"	¾"	1½"
13 mm	IMM-130	PM-130	25/32"	15/16"	¾"	1½"
14 mm	IMM-140	PM-140	7/8"	15/16"	7/8"	1½"
15 mm	IMM-150	PM-150	59/64"	1"	7/8"	1½"
16 mm	IMM-160	PM-160	61/64"	1"	7/8"	1½"
17 mm	IMM-170	PM-170	1 1/16"	1 1/16"	7/8"	1½"
18 mm	IMM-180	—	1 1/16"	1 1/16"	7/8"	1½"
19 mm	IMM-190	PM-190	1 1/8"	1 1/8"	7/8"	1½"
20 mm	IMM-200	—	1 3/16"	1 3/16"	7/8"	1½"
21 mm	IMM-210	—	1¼"	1¼"	7/8"	1½"
22 mm	IMM-220	PM-220	1 5/16"	1 5/16"	7/8"	1½"
24 mm	IMM-240	PM-240	1⅜"	1⅜"	1⅛"	1¾"
27 mm	IMM-270	PM-270	1 9/16"	1 9/16"	1 5/16"	2"

Note: The Power Type series are not Flank Drive design.

Ⓒ ¾" SQUARE DRIVE—IMPACT TYPE
SINGLE HEX—STANDARD LENGTH

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth	Overall Length
		Socket End	Handle End		
17 mm	IMM-172	1 5/32"	1⅝"	¾"	1¾"
19 mm	IMM-192	1¼"	1⅝"	¾"	1¾"
20 mm	IMM-202	1 9/32"	1⅝"	¾"	1¾"
22 mm	IMM-222	1 7/16"	1⅝"	1"	1⅞"
24 mm	IMM-242	1 9/16"	1⅝"	1"	1⅞"
27 mm	IMM-272	1 11/16"	1⅝"	1⅛"	2"
30 mm	IMM-302	1⅞"	1⅝"	1⅛"	2⅛"
31 mm	IMM-312	1⅞"	1⅝"	1¼"	2⅛"
32 mm	IMM-322	2"	1¾"	1⅛"	2⅛"
34 mm	IMM-342	2"	1¾"	1⅜"	2⅛"
35 mm	IMM-352	2⅛"	1¾"	1⅜"	2¼"
36 mm	IMM-362	2⅛"	1¾"	1¼"	2 3/16"
38 mm	IMM-382	2¼"	1¾"	1⅜"	2¼"
40 mm	IMM-402	2⅜"	1¾"	1¾"	2⅝"
41 mm	IMM-412	2 7/16"	1¾"	1⅝"	2⅝"
46 mm	IMM-462	2¾"	1¾"	1¼"	2⅜"

Ⓓ ¾" SQUARE DRIVE—IMPACT TYPE
SINGLE HEX—EXTRA DEEP LENGTH

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth	Overall Length
		Socket End	Handle End		
24 mm	SIMM-242	1⅝"	1⅝"	2¼"	3"
27 mm	SIMM-272	1¾"	1⅝"	2⅛"	3"
30 mm	SIMM-302	2"	1¾"	2⅛"	3¼"
32 mm	SIMM-322	2"	1¾"	2⅛"	3¼"
36 min	SIMM-362	2¼"	1¾"	2½"	3½"

Ⓑ ⅝" SQUARE DRIVE—IMPACT TYPE
SINGLE HEX—STANDARD LENGTH

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth	Overall Length
		Socket End	Handle End		
13 mm	IMM-131	55/64"	1 5/16"	7/8"	1½"
14 mm	IMM-141	1 5/16"	1 5/16"	7/8"	1½"
17 mm	IMM-171	1⅛"	1 5/16"	7/8"	1½"
19 mm	IMM-191	1 7/32"	1 5/16"	7/8"	1½"
22 mm	IMM-221	1⅜"	1⅜"	1"	1⅝"
24 mm	IMM-241	1 7/16"	1 5/16"	7/8"	1¾"
27 mm	IMM-271	1⅝"	1½"	1⅜"	2"
30 mm	IMM-301	1¾"	1½"	1⅜"	2"
32 mm	IMM-321	1 13/16"	1½"	1⅜"	2"

Ⓔ 1" SQUARE DRIVE—IMPACT TYPE
SINGLE HEX—STANDARD LENGTH

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth	Overall Length
		Socket End	Handle End		
24 mm	IMM-243	1 19/32"	2 5/64"	15/16"	2 5/64"
32 mm	IMM-323	2"	2⅛"	1 3/16"	2⅜"
36 mm	IMM-363	2¼"	2¼"	1 3/16"	2½"
41 mm	IMM-413	2⅜"	2⅜"	1⅜"	2⅝"
46 mm	IMM-463	2¾"	2⅜"	1⅝"	2⅞"
50 mm	IMM-503	2¾"	2⅜"	1⅝"	2⅞"
52 mm	IMM-663	3"	2⅜"	2 1/16"	3¼"
55 mm	IMM-553	3¼"	2⅜"	2"	3¼"
60 mm	IMM-603	3½"	2⅜"	2¼"	3½"
65 mm	IMM-653	3¾"	2⅜"	2 1/16"	3⅝"

Ⓕ 1" SQUARE DRIVE—IMPACT TYPE
SINGLE HEX—EXTRA DEEP LENGTH

Wrench Size	Stock No.	Outside Diameter		Bolt Clearance Depth	Overall Length
		Socket End	Handle End		
22 mm	SIMM-223	1 19/32"	2⅛"	3 1/16"	4¼"
24 mm	SIMM-243	1 19/32"	2⅛"	3 1/16"	4¼"
27 mm	SIMM-273	1 13/16"	2⅛"	3 1/16"	4¼"
30 mm	SIMM-303	1⅞"	2⅛"	3 1/16"	4¼"
32 mm	SIMM-323	2 1/16"	2⅛"	3 1/16"	4¼"

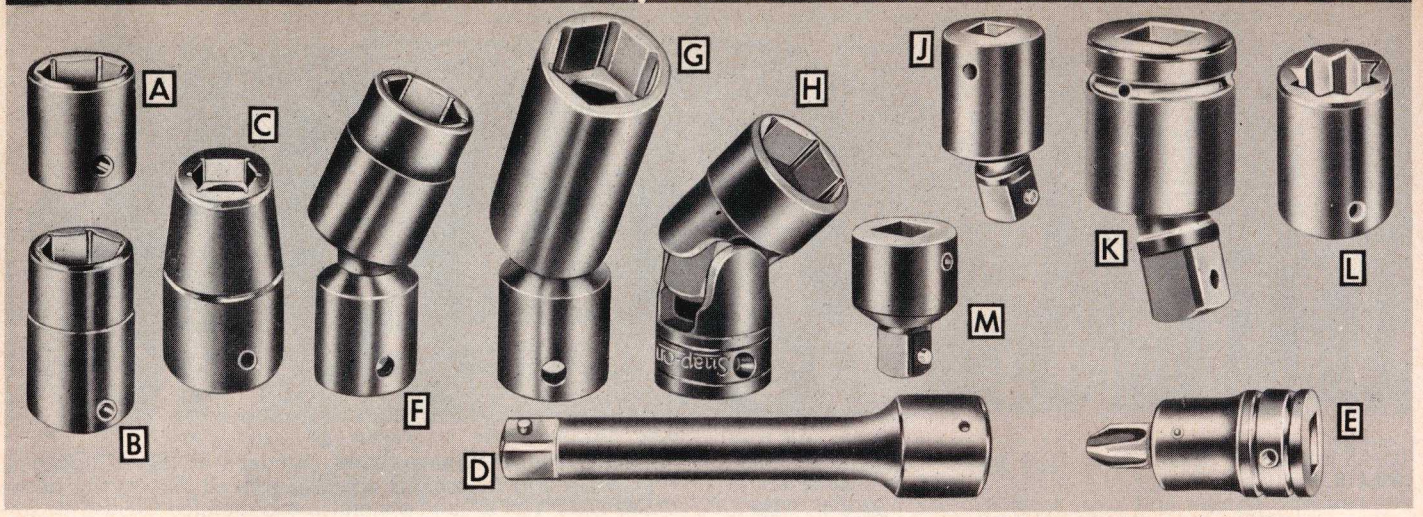
LOCKING RINGS—SYNTHETIC RUBBER

IM-182R Fits all ¾" square drive sockets above.
IM-243R Fits 1" square drive sockets IMM-243 to IMM-363 and SIMM-223 to SIMM-323.
IM-483R Fits 1" square drive sockets IMM-413 to IMM-653.

LOCKING PINS

IM-182P Steel Pin. Fits ¾" square drive sockets above.
IM-182PR Rawhide Pin. Fits ¾" square drive sockets above.
IM-243P Steel Pin. Fits same sockets as IM-243R Ring.
IM-243PR Rawhide Pin. Fits same sockets as IM-243R Ring.
IM-483P Steel Pin. Fits same sockets as IM-483 Ring.
IM-483PR Rawhide Pin. Fits same sockets as IM-483 Ring.

INDUSTRIAL SOCKETS, ETC. . . . . FOR USE ON



FLANK DRIVE
FERRET SERIES (3/8" Sq. Drive)
▲ Single Broached Hex Sockets

Outside Diameter			Ⓐ STD. TYPE		Ⓑ DEEP TYPE	
Wrench Size	Socket End	Handle End	Stock No.	Overall Length	Stock No.	Overall Length
5/16"	1/2"	11/16"	PF-100	7/8"	—	—
11/32"	17/32"	11/16"	PF-110	7/8"	—	—
3/8"	9/16"	11/16"	PF-120	7/8"	SPF-120	1 1/2"
7/16"	21/32"	3/4"	PF-140	7/8"	SPF-140	1 1/2"
1/2"	3/4"	3/4"	PF-160	7/8"	SPF-160	1 1/2"
9/16"	13/16"	13/16"	PF-180	7/8"	SPF-180	1 1/2"
5/8"	29/32"	29/32"	PF-200	7/8"	SPF-200	1 1/2"
11/16"	31/32"	31/32"	PF-220	1"	—	—
3/4"	1 13/64"	1 13/64"	PF-240	1"	—	—

FLANK DRIVE
Ⓒ SOCKETS FOR SELF-TAP SCREWS

SINGLE HEX					
Wrench Size	Square Drive	Stock Number	O.D. Socket End	Depth of Broach	Overall Length
5/16"	3/8"	FIM-100	17/32"	3/16"	7/8"
3/8"	3/8"	FIM-120	5/8"	7/32"	7/8"
7/16"	3/8"	FIM-140	45/64"	1/4"	7/8"
1/2"	3/8"	FIM-160	51/64"	9/32"	7/8"
9/16"	3/8"	FIM-180	7/16"	5/16"	7/8"
3/8"	1/2"	PK-121	5/8"	7/32"	1 1/2"
7/16"	1/2"	PK-141	45/64"	7/32"	1 1/2"
1/2"	1/2"	PK-161	25/32"	1/4"	1 1/2"
9/16"	1/2"	PK-181	7/8"	11/32"	1 1/2"

Ⓓ POWER TYPE EXTENSIONS

Stock No.	Square Drive	Shank Diameter	Overall Length
▲PF-2	3/8"	7/16"	3"
▲PF-6	3/8"	7/16"	6"
▲PF-11	3/8"	7/16"	12"
▲PS-2	1/2"	21/32"	2"
▲PS-6	1/2"	5/8"	5"
▲PS-12	1/2"	5/8"	10"

Ⓔ PHILLIPS BIT SCREW DRIVERS

Complete Tool			Bit Only	Roll Pin
Stock No.	Bit Size	Length	No.	No.
PSP-32A	3	2 3/16"	PSP-32A-2	ESD-310
PSP-42A	4	2 3/16"	PSP-42A-2	ESD-310

FLANK DRIVE — IMPACT TYPE
FERRET SERIES (3/8" Sq. Drive)
▲ Ⓕ "FLEXOCKETS"

Single Hex		Outside Diameter		
Wrench Size	Stock No.	Socket End	Handle End	Overall Length
3/8"	IMBF-12B	9/16"	3/4"	2"
7/16"	IMBF-14B	9/16"	3/4"	2"
1/2"	IMBF-16B	23/32"	3/4"	2 1/8"
9/16"	IMBF-18B	13/16"	3/4"	2 1/8"
5/8"	IMBF-20B	29/32"	3/4"	2 3/16"
11/16"	IMBF-22B	31/32"	1"	2 3/8"
3/4"	IMBF-24B	1 13/64"	1"	2 13/32"

FLANK DRIVE — IMPACT TYPE
FERRET SERIES (3/8" Sq. Drive)
Ⓖ EXTRA DEEP FLEXOCKETS

Single Hex				
Wrench Size	Stock Number	Outside Diam.	Bolt Clearance Depth	Overall Length
3/8"	SIMBF-12	3/4"	1"	2 5/8"
7/16"	SIMBF-14	3/4"	1"	2 5/8"
1/2"	SIMBF-16	3/4"	1"	2 5/8"
9/16"	SIMBF-18	3/4"	1"	2 5/8"
5/8"	SIMBF-20	3/4"	1"	2 5/8"

205-SIMBF Set. Consists of one each of the five Flexockets, SIMBF-12 to SIMBF-20.

FLANK DRIVE — POWER TYPE
FERRET SERIES (3/8" Sq. Drive)
▲ Ⓗ FLEXOCKETS

Single Hex		Outside Diameter		
Wrench Size	Stock Number	Socket End	Handle End	Overall Length
7/16"	PFU-14A	5/8"	11/16"	1 37/64"
1/2"	PFU-16C	23/32"	11/16"	1 5/8"
9/16"	PFU-18C	13/16"	3/4"	1 25/32"
5/8"	PFU-20C	7/8"	3/4"	1 53/64"

UNIVERSAL JOINTS

Stock No.	Square Drive	Outside Diam.	Overall Length
▲Ⓙ IMBF-80	3/8"	7/8"	1 41/64"
▲Ⓙ IMB-80	1/2"	1 3/16"	2 9/32"
▲Ⓙ IMB-81	5/8"	1 1/2"	2 19/32"
▲Ⓚ IMB-82	3/4"	1 3/4"	3 5/32"

FLANK DRIVE
MASTER SERIES (1/2" Sq. Drive)
"FLEXOCKETS"
▲ Ⓕ REGULAR TYPE

Single Hex		Outside Diameter		
Wrench Size	Stock Number	Socket End	Handle End	Overall Length
1/2"	IMB-160B	3/4"	1"	2 5/16"
9/16"	IMB-180B	27/32"	1"	2 7/16"
5/8"	IMB-200B	29/32"	1"	2 1/2"
11/16"	IMB-220B	1 1/16"	1"	2 19/32"
3/4"	IMB-240B	1 3/32"	1"	2 11/16"
13/16"	IMB-260B	1 3/16"	1"	2 13/16"
7/8"	IMB-280B	1 1/4"	1"	2 13/16"
15/16"	IMB-300B	1 5/16"	1"	3"
1"	IMB-320B	1 3/8"	1"	3 1/16"

309B-IMB Set. One each of above nine Flexockets.

FLANK DRIVE
MASTER SERIES (1/2" Sq. Drive)
FLEXOCKETS
▲ Ⓕ THIN-WALL TYPE

Single Hex		Outside Diameter		
Wrench Size	Stock Number	Socket End	Handle End	Overall Length
7/16"	IMBL-140A	5/8"	15/16"	2 1/8"
1/2"	IMBL-160A	23/32"	15/16"	2 1/8"
9/16"	IMBL-180A	13/16"	15/16"	2 1/8"
5/8"	IMBL-200A	7/8"	15/16"	2 1/4"
11/16"	IMBL-220A	31/32"	1"	2 7/16"
3/4"	IMBL-240A	1 13/64"	1"	2 1/2"

MASTER SERIES (1/2" Sq. Drive)
▲ Ⓛ Double Square Sockets

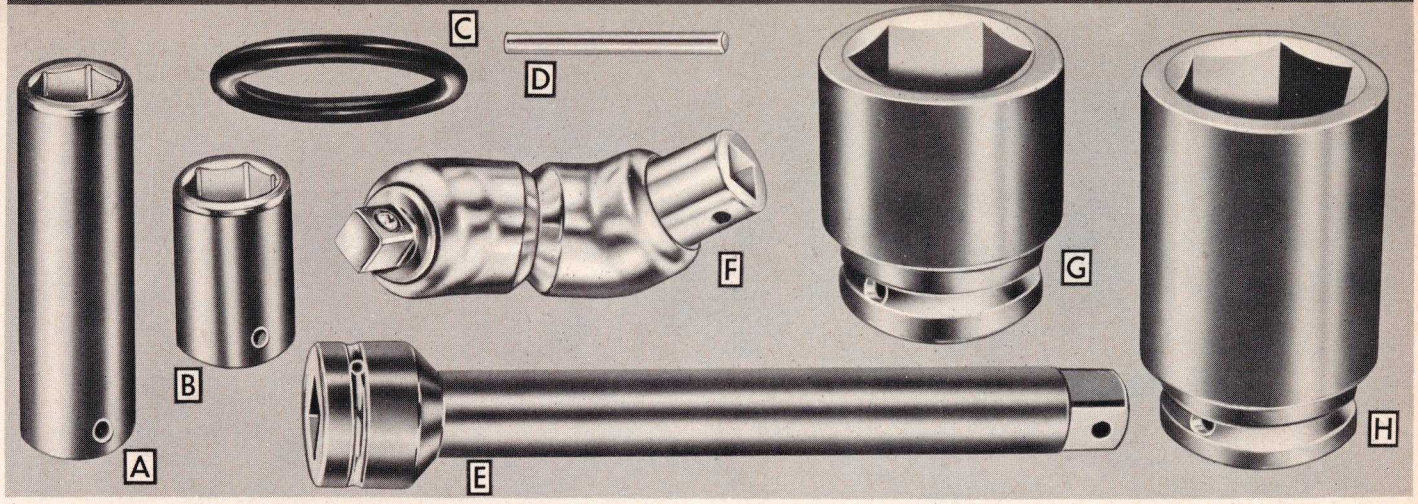
		Outside Diameter		
Wrench Size	Stock Number	Socket End	Handle End	Overall Length
3/8"	P-412	23/32"	7/8"	1 1/2"
7/16"	P-414	13/16"	15/16"	1 1/2"
1/2"	P-416	29/32"	1"	1 1/2"
9/16"	P-418	1"	1 1/8"	1 1/2"
5/8"	P-420	1 7/64"	1 3/16"	1 1/2"
11/16"	P-422	1 13/64"	1 1/4"	1 1/2"
3/4"	P-424	1 5/16"	1 3/8"	1 1/2"
13/16"	P-426	1 7/16"	1 7/16"	1 1/2"
7/8"	P-428	1 1/2"	1 9/16"	1 1/2"
1"	P-432	1 23/32"	1 3/4"	1 3/4"

Ⓜ ADAPTORS — 3/8" to 1/2"

Stock Number	Square Drive Female	Square Drive Male	O.D.	Overall Length
▲PA-2	3/8"	1/2"	11/16"	1 5/16"
▲PA-4	1/2"	3/8"	15/16"	1 15/32"

▲ Federal Specs: GGG-W-660 applies to all items on this page indicated by the symbol ▲.

POWER NUT RUNNERS AND IMPACT WRENCHES



Impact series and Power series are identical in size and appearance.
Impact sockets are heat treated to withstand powered impact use.
Power sockets are intended for use on clutch type nut runners.

Ⓐ MASTER SERIES (1/2" Square Drive)
▲ FLANK DRIVE — BOLT CLEARANCE TYPE

Wrench Size	Stock Number		Outside Diameter		Bolt Clearance Depth	Overall Length
	IMPACT TYPE	POWER TYPE	Socket End	Handle End		
3/8"	▲SIM-120	▲SP-120	5/8"	7/8"	2 5/8"	3 1/4"
7/16"	▲SIM-140	▲SP-140	11/16"	7/8"	2 5/8"	3 1/4"
1/2"	▲SIM-160	▲SP-160	25/32"	15/16"	2 5/8"	3 1/4"
9/16"	▲SIM-180	▲SP-180	7/8"	15/16"	2 5/8"	3 1/4"
5/8"	▲SIM-200	▲SP-200	61/64"	1"	2 5/8"	3 1/4"
11/16"	▲SIM-220	▲SP-220	1 1/16"	1 1/16"	2 5/8"	3 1/4"
3/4"	▲SIM-240	▲SP-240	1 1/8"	1 1/8"	2 5/8"	3 1/4"
13/16"	▲SIM-260	▲SP-260	1 1/4"	1 1/4"	2 5/8"	3 1/4"
7/8"	▲SIM-280	▲SP-280	1 5/16"	1 5/16"	2 7/8"	3 1/2"
15/16"	▲SIM-300	▲SP-300 1/2	1 3/8"	1 3/8"	2 7/8"	3 1/2"
1"	▲SIM-320	▲SP-320 1/2	1 7/16"	1 7/16"	2 7/8"	3 1/2"

Ⓑ MASTER SERIES (1/2" Square Drive)
▲ FLANK DRIVE — STANDARD LENGTH SERIES

Wrench Size	Stock Number		Outside Diameter		Bolt Clearance Depth	Overall Length
	IMPACT TYPE	POWER TYPE	Socket End	Handle End		
3/8"	▲IM-120	▲P-120	39/64"	7/8"	7/8"	1 1/2"
7/16"	▲IM-140	▲P-140	11/16"	7/8"	7/8"	1 1/2"
1/2"	▲IM-160	▲P-160	25/32"	15/16"	7/8"	1 1/2"
9/16"	▲IM-180	▲P-180	7/8"	15/16"	7/8"	1 1/2"
5/8"	▲IM-200	▲P-200	61/64"	1"	7/8"	1 1/2"
11/16"	▲IM-220	▲P-220	1 1/64"	1 1/16"	7/8"	1 1/2"
3/4"	▲IM-240	▲P-240	1 1/8"	1 1/8"	7/8"	1 1/2"
13/16"	▲IM-260	▲P-260	1 1/4"	1 1/4"	7/8"	1 1/2"
7/8"	▲IM-280	▲P-280	1 5/16"	1 5/16"	7/8"	1 1/2"
15/16"	▲IM-300	▲P-300 1/2	1 3/8"	1 3/8"	1 1/4"	1 3/4"
1"	▲IM-320	▲P-320 1/2	1 7/16"	1 7/16"	1 1/4"	1 3/4"
1 1/16"	IM-340	▲P-340 1/2	1 9/16"	1 9/16"	1 3/8"	2"
1 1/8"	IM-360	—	1 5/8"	1 5/8"	1 3/8"	2"
1 3/16"	IM-380	—	1 11/16"	1 11/16"	1 3/8"	2"
1 1/4"	IM-400	—	1 3/4"	1 3/4"	1 3/8"	2"
1 5/16"	IM-420H	—	1 7/8"	1 7/8"	1 3/8"	2"

316-IM Standard Type Hex Socket Set. The 16 above sockets, IM-120 through IM-420H.

306-IM-T Set. 6 sockets, IM-160 through IM-260 in KTA-241 metal tray.

Ⓒ SYNTHETIC RUBBER LOCKING RINGS

IM-182R Locking Ring for 3/4" square drive sockets.

Ⓓ LOCKING PINS

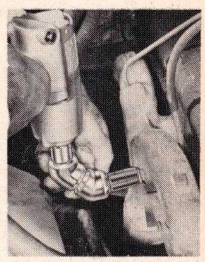
IM-182P Steel Pin for 3/4" square drive sockets.

IM-182PR Rawhide Pin fits 3/4" square drive sockets.

Ⓔ IMPACT TYPE EXTENSIONS

Stock No.	Square Drive	Overall Length
▲IM-62A	3/4"	7"
▲IM-92A	3/4"	10"
▲IM-122A	3/4"	13"

Ⓕ POWER-FLEX ANGLE DRIVE UNITS



Turn your 3/8" square drive impact wrench into an angle drive unit for those jobs in limited access areas. You can turn nuts, bolts, cap screws, etc. at any angle from 0° to 90°. Enclosed in well rounded housings to provide a comfortable grip the two 45° sections are coupled together, yet swivel independently from each other to provide the necessary angle. Simply connect between the impact wrench and socket or extension and you can handle those difficult jobs quickly and easily. Ball bearing construction provides maximum efficiency. Housing diameter is only 1 7/16", maximum overall length is 4 7/16". Chrome plated.

GA-293 Power-Flex. 3/8" Square Drive.
GA-290 Power-Flex. 1/2" Square Drive.

HEAVY DUTY INDUSTRIAL IMPACT SOCKETS
▲ 3/4" Square Drive — Single Hexagon Broached

Wrench Size	Diameter		Ⓖ STANDARD TYPE		Ⓗ DEEP TYPE	
	Socket End	Handle End	Stock No.	Overall Length	Stock No.	Overall Length
9/16"	1"	1 5/8"	IM-182	1 3/4"	.....	3 1/4"
5/8"	1 3/32"	1 5/8"	IM-202	1 3/4"	SIM-202	3 1/4"
11/16"	1 5/32"	1 5/8"	IM-222	1 3/4"	SIM-222	3 1/4"
3/4"	1 1/4"	1 5/8"	IM-242	1 3/4"	SIM-242	3 1/4"
13/16"	1 3/8"	1 5/8"	IM-262	1 7/8"	SIM-262	3 1/4"
7/8"	1 5/8"	1 5/8"	IM-282	1 7/8"	SIM-282	3 1/4"
15/16"	1 9/16"	1 5/8"	IM-302	1 7/8"	SIM-302	3 1/4"
1"	1 5/8"	1 5/8"	IM-322	2"	SIM-322	3 1/4"
1 1/16"	1 11/16"	1 5/8"	IM-342	2"	SIM-342	3 1/4"
1 1/8"	1 3/4"	1 5/8"	IM-362	2 1/8"	SIM-362	3 1/2"
1 1/4"	2"	1 3/4"	IM-402	2 1/8"	SIM-402	3 1/2"
1 5/16"	2 1/16"	1 3/4"	IM-422	2 1/4"	SIM-422	3 1/2"
1 3/8"	2 1/8"	1 3/4"	IM-442	2 1/4"	SIM-442	3 1/2"
1 7/16"	2 1/4"	1 3/4"	IM-462	2 1/4"	SIM-462	3 1/2"
1 1/2"	2 3/8"	1 3/4"	IM-482	2 1/4"	SIM-482	3 1/2"

SPECIAL PURPOSE IMPACT SOCKETS

Similar in appearance to the 3/4" square drive sockets above, but with different heat treatment. They are intended to withstand impact use on tractor bolts and other heavy equipment and for such work should prove more durable.

▲ Ⓖ HEAVY DUTY SERIES — 3/4" Square Drive

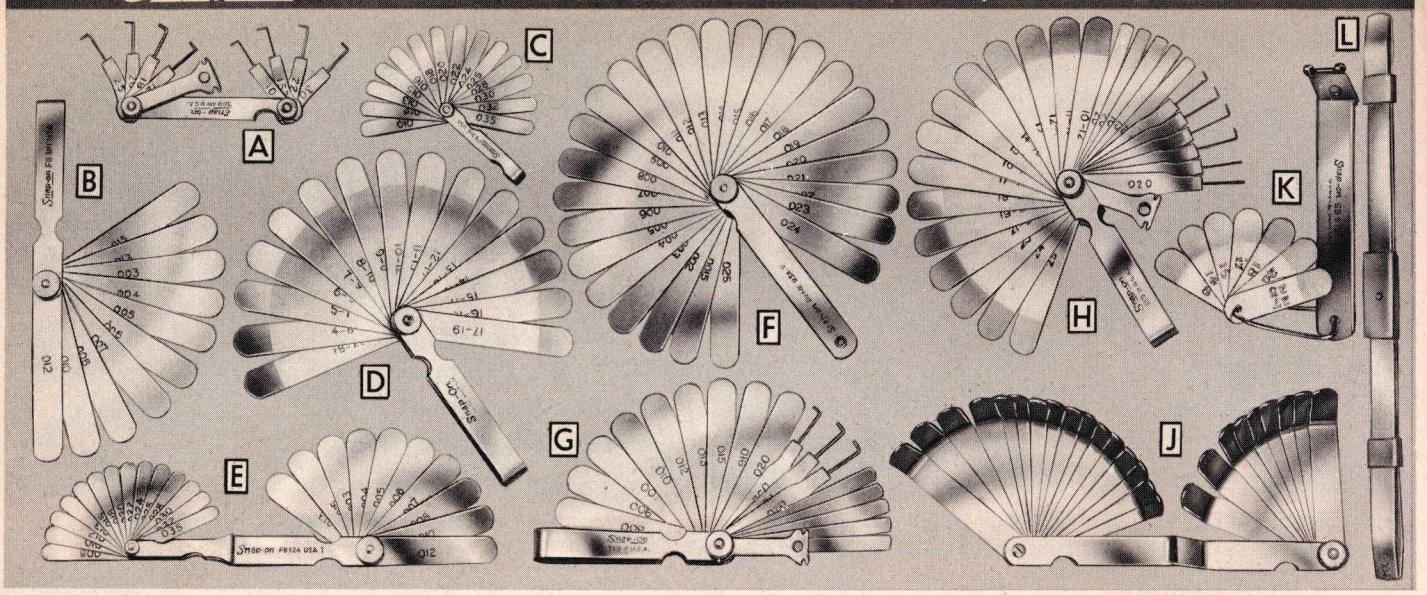
Single Hex Wrench Size	Stock No.	Outside Diameter		Broach Depth	Bolt Clearance Depth	Overall Length
		Socket End	Handle End			
3/4"	IMT-242	1 1/4"	1 5/8"	9/16"	1"	1 3/4"
13/16"	IMT-262	1 3/8"	1 5/8"	5/8"	1 1/8"	1 7/8"
15/16"	IMT-302	1 9/16"	1 5/8"	5/8"	1 1/8"	1 7/8"
1"	IMT-322	1 5/8"	1 5/8"	11/16"	1 1/4"	2"
1 1/8"	IMT-362	1 7/8"	1 5/8"	3/4"	1 3/8"	2 1/8"
1 5/16"	IMT-422	2 1/8"	1 3/4"	7/8"	1 1/2"	2 1/4"

SPECIAL NOTICE

We cannot show our complete line of industrial wrenches and attachments in this catalog. Industrial users are invited to write for a copy of the current SNAP-ON Industrial Catalog.

▲ Federal Specs: GGG-W-660 covers all items on this page indicated by the symbol ▲.

Snap-on® FEELER GAUGES OF HIGH QUALITY STEEL



All blades are tested for accuracy. Gauges are equipped with knurled nut permitting user to slide out the required blade and lock it in position.

▲ Ⓐ **FB-302 Aviation Wire Gap Gauge** with eight sizes, .010, .012, .015, .018, .020, .022, .025, .030 and an electrode bender.

Ⓐ **FB-301 Automotive Wire Gap Gauge** with eight sizes, .022, .025, .028, .030, .032, .035, .038, .040, and an electrode bender.

Extra wires in any of above sizes are available at all times.

Ⓑ **FB-310 Standard Feeler Gauge.** Ten blades 3⅜" long in following thicknesses: .003, .004, .005, .006, .007, .008, .010, .012, .013 and .015.

Ⓒ **FB-316 Ignition and Spark Plug Gauge.** Sixteen fingers 1¾" long in the following thicknesses: .010, .012, .013, .015, .016, .017, .018, .020, .022, .024, .025, .026, .028, .030, .032, .035.

Ⓓ **FB-315 Step Feeler Gauge.** Contains 15 "go, no-go" blades in the following sizes: .004–.006, .005–.007, .006–.008, .007–.009, .008–.010, .009–.011, .010–.012, .011–.013, .012–.014, .013–.015, .014–.016, .015–.017, .016–.018, .017–.019 and .018–.020.

Ⓔ **FB-326 Combination Feeler and Ignition Gauge.** Ten 2½" blades and sixteen 1¾" fingers. Blade thicknesses: .003, .004, .005, .006, .007, .008, .010, .012, .013 and .015. Fingers: .008, .010, .012, .013, .015, .017, .018, .020, .022, .024, .025, .026, .028, .030, .032, .035.

Ⓕ **FB-325 General Use Feeler Gauge.** Contains the following 3⅜" blades. Sizes — .0015, .002, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025.

Ⓖ **FB-379 Chevrolet Feeler Gauge.** Contains nine 3⅜" blades in thicknesses of .006, .007, .008, .010, .012, .013, .015 .016, .020; five finger blades .016, .018, .019, .020, .022; three wire gap gauges .032, .035 and .040 and an electrode bender.

Ⓗ **FB-359 Ford Feeler Gauge.** Contains four spark gap bent wire feelers .025, .028, .030, .035; two straight wire feelers for voltage regulator cutout .017 and .030; five ignition finger blades .013, .015, .016, .020, .025; fourteen step-ground blades .010–.012, .011–.013, .012–.014, .013–.015, .014–.016, .015–.017, .016–.018, .017–.019, .018–.020, .019–.021, .021–.023, .023–.025, .024–.026, .025–.027, and an electrode bender.

Ⓙ **FB-300 Bent Blade Feeler Gauge.** Contains twenty-five 3¼" blades, each with the end bent at a 45-degree angle. This minimizes danger of skinned knuckles or burns from hot manifold when checking overhead valve clearances. Sizes included are .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025, .026, .027, .028, .029 and .030.

Extra Blades, Fingers and Wires

We can supply extra blades, fingers, or wires in regular thicknesses, in 3⅜" or 2½" lengths and in fingers 1¾" length.

Ⓚ **FB-308 Stop Feeler Gauge Set.** Consists of the FB-308-1 Offset Holder and the FB-308-2 set of blades. The handle is bent to clear exhaust manifolds . . . make adjustment more accurately as the blade is not bent to clear obstructions. Blades are inserted in the bent end and over a raised nub which engages the hole in the blade. Spring action holds the blade securely until released. Blades are 2" long with a 9/16" stepped end. Recommended for valve adjustment on Ford 6's and V-8's, Mercury and Ford trucks using Lincoln V-8 engine without hydraulic valve lifters.

FB-308-1 Offset Holder. Patent No. 2,817,151.

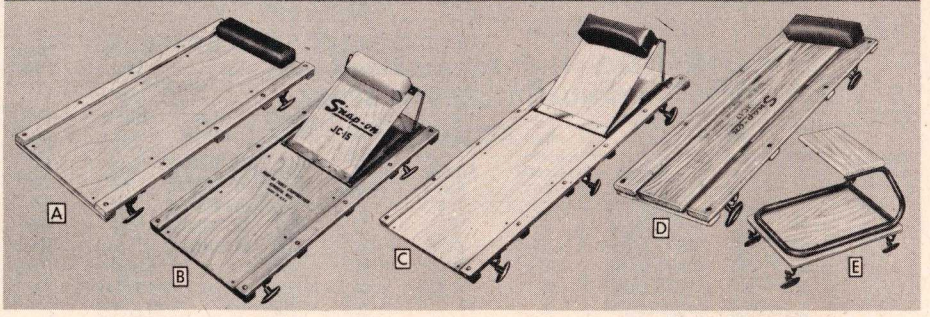
FB-308-2 Set of Eight Step Blades. .008–.010, .011–.013, .014–.016, .015–.017, .017–.019, .018–.020, .020–.022, .025–.027.

Ⓛ **FB-312 Feeler Gauge Holder.** 10" long holder designed to hold two 12" feeler blades. Blades extend 2" or further if desired and are held firmly by two sliding end clamps. The two-blade feature is handy where intake and exhaust valve specifications differ or for use as a go and no-go gauge. The extra length available when the blades are extended is very useful in gauging parts that are otherwise difficult to reach.

12" Strips

Following sizes of feeler gauge stock are available in 12" strips: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025, .026, .027, .028, .029, .030, .032, .035 and .040. Use in FB-312 Holder listed above.

CREEPERS AND STOOL RIDE EASILY OVER ROUGH FLOORS



Ⓐ STANDARD CREEPER

JC-12A Standard Creeper is modestly priced, designed for general use. Constructed of tough, resilient plywood, this unit is built to withstand hard knocks. Comfortable foam rubber head rest is covered with a plastic material which is resistant to acids, grease, gas and alcohol. Four swivel type nylon casters can roll over rough, uneven surfaces. Overall length is 36", width is 15¾".

Ⓑ ADJUSTABLE HEAD REST CREEPER

JC-15 Adjustable Head-Rest Creeper. This unit is the same as model JC-12 described above, but is equipped with an adjustable head rest. The hinged portion can be adjusted to the desired height quickly and easily and prevents cramped neck and back muscles by providing ample support. Overall length is 36", width is 15¾". Nylon swivel casters.

Ⓒ LARGE DELUXE CREEPER

JC-16 Deluxe, King Size Creeper with Adjustable Head Rest. Designed for those who prefer a larger, heavier creeper with the adjustable head rest feature. Full 42" length and 17" width provide plenty of support, while the six swivel nylon casters premit fast and easy movement to the required location. Foam rubber head rest is covered with a plastic which resists most solvents encountered in garages and service stations.

Ⓓ HEAVY DUTY CREEPER

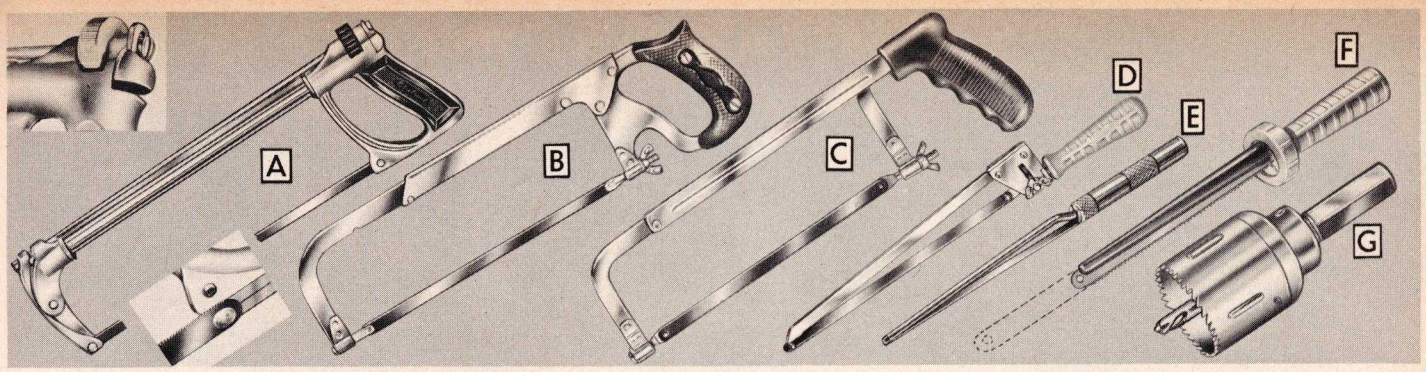
JC-17A Heavy Duty Creeper is truly a rugged unit, and is designed to withstand long, hard service. Constructed of carefully selected, kiln-dried hardwood, this creeper is mounted on four nylon swivel casters. The unit is designed for maximum service life while providing plenty of use. The comfortable foam rubber head rest is covered with the same type of solvent resistant plastic material as that used on our JC-16A creeper. Overall length of this heavy duty creeper is 35¼", width is 15".

Ⓔ MECHANIC'S WORK STOOL

JC-19 Mechanic's Work stool is especially useful for brake work, body repair work, etc. This solidly constructed unit is made of wood and heavy tubular steel. The large bottom shelf is convenient for storing tools or equipment needed on the job. Four swivel nylon casters roll easily over rough or uneven floors. Overall length of the complete unit is 18½", width 14", height (from floor) 13½".

Note: Casters on all the above units are double swivel type with nylon wheels that will roll over obstacles or rough floors without sliding and make creepers very low for easy access under cars.

▲ Federal Specs: GGG-G-17 applies to the FB-302 Wire Gauge



HACKSAW FRAMES

Ⓐ **HS-12 Deluxe Hacksaw Frame.** Gives you many superior features . . . light weight . . . extreme rigidity . . . cuts flush against a flat surface either parallel or at right angles to it. There is no projecting wing nut or handle to interfere. Saw teeth extend below frame so that you can cut to floor or wall. Close-working front end allows working in close quarters like under hood of car. Has generous throat capacity. Storage place for blades in handle. Blade slides into machined slots in frame assuring perfect alignment. Tension obtained by lever action controlled by knurled nut . . . a slight adjustment provides rigid blade so that entire cut is controlled, there is no "wobble" and longer blade life results. For right angle use the blade is held by the pins onto the bottom surface of the end parts. Frame is only 16" long yet uses 12" blades.

Ⓑ **HS-8 Quality Hack Saw Frame.** Rigid construction and excellent balance reduce possibility of blade "whip" and breakage and make this saw a pleasure to use. Handle and rear leg are one-piece design with large hand opening . . . power is delivered along the blade line . . . plastic hand plates offer a firm, comfortable grip and stand out in pleasing contrast to the plated frame. This frame will take 10" or 12" length blades.

Ⓒ **HS-2 Standard Hack Saw Frame.** A good all around tool rigidly built to keep the blade taut at all times. Comfortable, plastic pistol grip means less hand fatigue. Grip is molded to the frame . . . frame length is adjustable . . . accommodates any 8", 10" or 12" blade.

Ⓔ **HS-151 Junior Hack Saw.** For use in very close quarters. Sturdily built to hold the blade with a non-buckling grip. Blades are 6" long x 3/16" wide, 32 teeth to the inch. Saw comes complete with one blade.

HSB-632A Packet of ten blades. For the HS-151 Hack Saw Frame.

▲ "BLUE POINT" BLADES

Tungsten alloy steel blades, heat treated to give hardness with flexibility. Good general purpose blades which will give long satisfactory service with proper use.

Package (10 Blades) Stock No.	Length	Teeth per Inch
HSB-1032	10"	32
HSB-1232	12"	32
HSB-1024	10"	24
HSB-1224	12"	24
HSB-1018	10"	18
HSB-1218	12"	18

▲ Snap-on HACKSAW BLADES

Made of Molybdenum high speed steel with back of blade annealed to make it unbreakable. Tooth edge hardened for durability. Sharp twists and kinks, which are the main reason for saw breakage, are absorbed without damaging the blade. 1/2" wide, .025" thick. Available as single blades or in packages of ten blades.

Stock Number	Length in Inches	Teeth per Inch	Stock Number	Length in Inches	Teeth per Inch
HSS-1018	10"	18	HSS-1214	12"	14
HSS-1024	10"	24	HSS-1218	12"	18
HSS-1032	10"	32	HSS-1224	12"	24
			HSS-1232	12"	32

Ⓓ LOW CLEARANCE HACKSAW

HS-3 Low Clearance Hack Saw. Adjustable feature allows cutting completely through 1" material or saws through narrow openings as small as 1" diameter with full blade tension. Tool is 16 1/2" long and takes a 10" blade. Turning handle adjusts tension.

Ⓕ HIGHLY VERSATILE JAB SAW

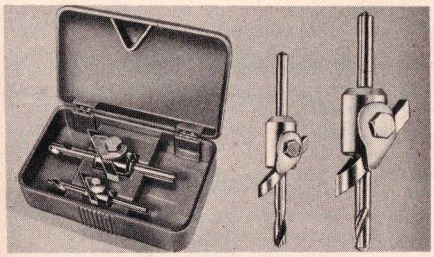
HS-13 Jab Saw. Will reach into areas where no other saw can operate. Consists of a die cast aluminum handle with a tempered sleeve attached. A patented clamping action holds a standard blade in any position. Broken blade may also be used for added economy. Blade replacement or positioning is accomplished quickly. A few left hand twists of the handle loosens the sleeve to permit blade movement in or out. A few twists to the right locks the blade securely in place. Designed to reach 6" into a 3/4" diameter hole with blade rigidly supported, the blade can also be extended to reach up to 10" further and flexed to cut flush with a surface.

▲ Ⓖ HIGH SPEED HOLE SAWS

High speed cutting edge is welded to a tough alloy steel back that absorbs shocks and prevents shattering due to overload or twist. Side slits permit removal of cuttings. High speed pilot drills are 1/4" diameter.

LHS-1 Arbor. Fits 9/16" to 1 3/16" saws, 1/2" hex shaft.
LHS-2 Arbor. Fits 1 1/4" and larger saws, 1/2" hex shaft.
LHS-5 Arbor. Fits 9/16" to 1 3/16" saws, 1/4" round shaft.
LHS-4 Pilot Drill for above arbors. 1/4" diameter.

Stock No.	Dia.	Stock No.	Dia.	Stock No.	Dia.
LHS-18	9/16"	LHS-40	1 1/4"	LHS-72	2 1/4"
LHS-20	5/8"	LHS-42	1 5/16"	LHS-76	2 3/8"
LHS-22	11/16"	LHS-44	1 3/8"	LHS-80	2 1/2"
LHS-24	3/4"	LHS-48	1 1/2"	LHS-84	2 5/8"
LHS-26	13/16"	LHS-52	1 5/8"	LHS-88	2 3/4"
LHS-28	7/8"	LHS-56	1 3/4"	LHS-92	2 7/8"
LHS-32	1"	LHS-60	1 7/8"	LHS-96	3"
LHS-34	1 1/16"	LHS-64	2"	LHS-112	3 1/2"
LHS-36	1 1/8"	LHS-66	2 1/16"	LHS-128	4"
LHS-38	1 3/16"	LHS-68	2 1/8"	LHS-132	4 1/8"



ADJUSTABLE HOLE CUTTERS

HC-790 Bruno Hole Cutter Set. Two tools, will cut holes from 5/8" to 2 1/2" diameter and 1/8" to 3/8" deep in sheet metal, brass, copper and aluminum — deeper holes in plastics, wood and masonite. Simple to adjust to any diameter. Use in low speed drill presses, electric hand drills or hand braces. Tool steel blades, heat treated shanks. Plastic case included in set.

Stock No.	Size Shank	Capacity	Thickness Capacity	Pilot Drill
HC-100	1/4"	5/8" to 1 1/2"	up to 1/8"	1/4"
HC-101	3/8"	1" to 2 1/2"	up to 3/8"	3/8"

HC-100-1 Extra Blade for HC-100 Cutter.
HC-101-1 Extra Blade for HC-101 Cutter.

STEEL TAPE RULES

Ⓐ **GA-524A 12' White Tape.** Here's a rule that gives extra rigidity for long measurements. The 3/4" wide blade is white with black inch and fraction markings and red foot markings and has the sliding tip. A large internal nylon brake holds the blade securely in any position and will not scratch or mar it in any way. Pressure on the circular center button releases the brake and a powerful spring retracts the blade. The unbreakable zinc alloy case is exactly 2" long for easy figuring of inside measurements.

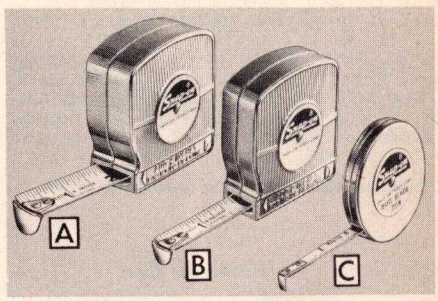
GA-524A-1 12' Replacement Blade for GA-524.

Ⓑ **GA-508A 8' White Tape.** 1/2" wide, black inch and fraction markings and red foot markings. The first 12" are graduated in 32nds, the remainder in 16ths. Has sliding tip for accurate inside and outside measurement. Blade graduated on both edges. Has unbreakable zinc alloy case exactly 2" wide for easy inside measuring. The blade is held at the desired position by an internal nylon brake which will not scratch or mar the blade. When this brake is released by pressure on the circular center button, the blade is retracted by a powerful spring. No need to wind or push.

GA-508A-1 8' Replacement Blade for GA-508.

Ⓑ **GA-510A 10' White Tape.** This rule has the same features as GA-508 but has a 10' white blade, 1/2" wide.

GA-510A-1 10' Replacement Blade for GA-510.



Ⓒ **GA-506 6' White Tape.** Black markings. Very thin, pocket-watch size. Fully chrome plated case is only 5/16" thick, 1 3/4" in diameter. Blade is 1/4" wide.

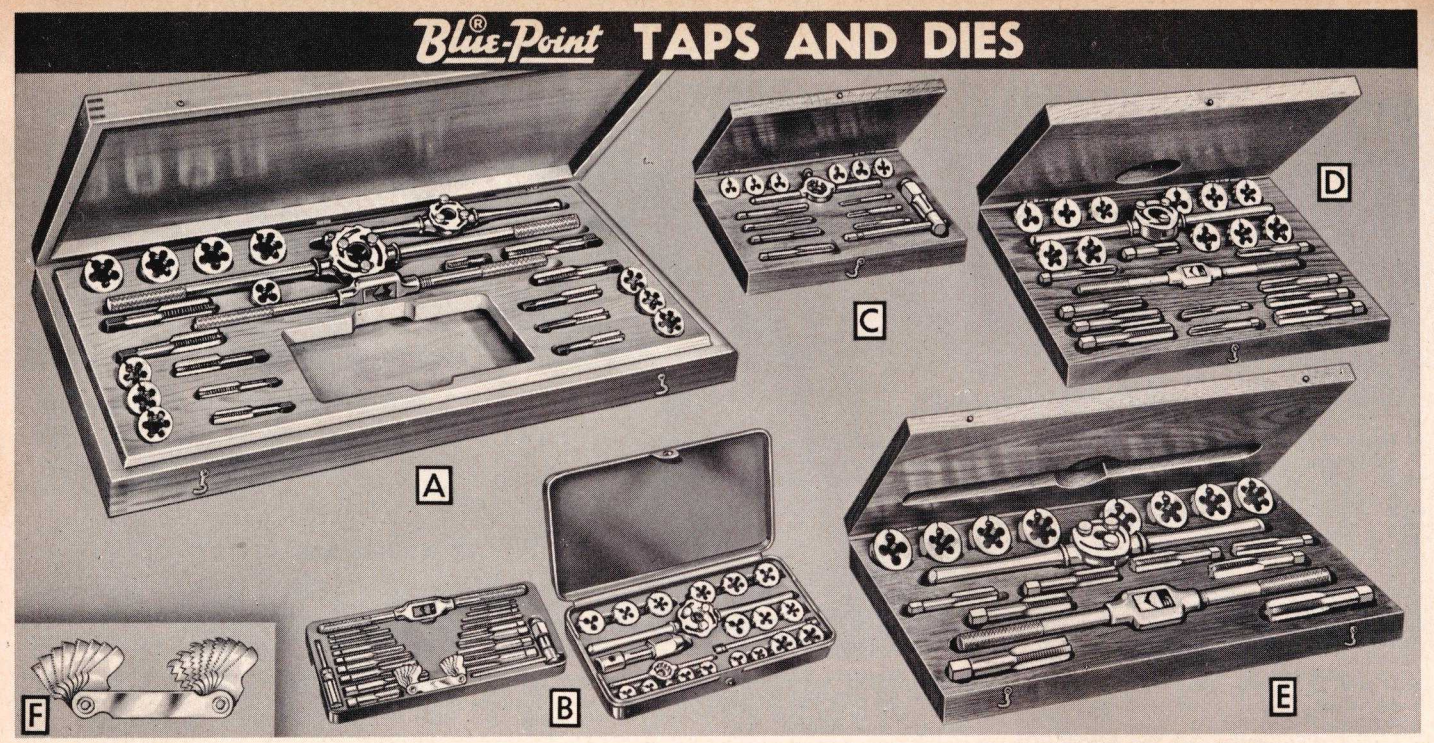
GA-506-1 6' Replacement Blade for GA-506. White with black markings, 1/4" wide.



GA-2 6" Steel Rule. Stiff tempered, with ground edges, 3/4" wide, .035" thick, graduated in 32nds on one edge and 64ths on the other. Decimal equivalent etched on back. Stainless steel — will not rust.

▲ Federal Specs: HSB Series Saw Blades — GGG-B-451A; LHS Series Saw Blades — GGG-B-451A; LHS Series Hole Saws — GGG-S-66.

Blue-Point® TAPS AND DIES



BLUE-POINT Taps and Dies give you fine, tough thread cutting tools. Dies ¼" to ½" are one-piece, double hex type . . . they can be turned with a one inch socket wrench where regular die stocks cannot be used. Machine screw dies 4-36 to 12-24 are ⅝" hexagon and dies ½" to 1" are one-piece circular type. Both types adjust to give a tight or loose fit to your thread — a small adjusting screw changes the nominal die size from .001" to .003" under or over. The three largest die stocks are self-centering and adjust to the diameter of the rod or bolt, insuring an accurate, straight thread . . . prevents dies from breakage due to tilting.

DIE STOCKS AND TAP WRENCHES

TD-3	**Die Stock**	For hexagon dies 4-36 to 12-24
TD-10	**Die Stock**	Self-centering for 1" diameter hex dies
TD-35	**Die Stock**	Self-centering for 1½" diameter round dies
TD-40	**Die Stock**	Self-center for 2" diameter round dies
TD-4	**Tap Wrench**	4-jaw chuck for 6-32 to 10-32 taps
TD-5	**Tap Wrench**	2-jaw chuck, for 1/16" to 5/32" taps
TD-6	**Tap Wrench**	2-jaw chuck, for 1/16" to ¼" taps
TD-7	**Tap Wrench**	2-jaw chuck, for ¼" to ½" taps
TD-8	**Tap Wrench**	4-jaw chuck, for 7/32" to 5/16" taps
TD-50	**Tap Wrench**	4-jaw chuck, for ¼" to ½" taps
TD-88	**Tap Wrench**	Clamp-type, for ⅛" to ½" taps
TD-98	**Tap Wrench**	Adjustable clamp-type for ½" to 1" taps

(F) **TD-1040 Screw Pitch Gauge.**

TAP AND DIE SETS

(A) **TD-9901 Large Set.** Contains five sizes of N.F. taps and dies, 9/16"-18, ⅝"-18, ¾"-16, ⅞"-14, 1"-14 and five N.C. sizes 9/16"-12, ⅝"-11, ¾"-10, ⅞"-9 and 1"-8. Also ¼" pipe tap and die, TD-35 and TD-40 Die Stocks and TD-98 Tap Wrench. The TD-9901-1 Wood Case has receptacle into which the TD-2425 Set can be inserted. This allows owners of the TD-2425 Set to purchase the TD-9901 Set and own a complete range of sizes charted below without duplication.

(B) **TD-2425 Super Set.** Light and compact in TD-2425-1 red plastic case with lift-out tray. Contains machine screw sizes 4-36, 6-32, 8-32, 10-24, 10-32, 12-24, N.C. sizes ¼"-20, 5/16"-18, ⅜"-16, 7/16"-14, ½"-13, N.F. sizes ¼"-28, 5/16"-24, ⅜"-24, 7/16"-20, ½"-20, also ⅛" pipe thread. Also includes TD-10 Die Stock, TD-3 Die Stock, TD-4 "T" Tap Wrench, TD-50 "T" Tap Wrench, TD-88 Tap and Reamer Wrench, TD-1040 Screw Pitch Gauge and a Screwdriver.

TD-2425-1 Plastic Case and Tray Only.

(A) (B) **TD-9902 Complete Set.** Consists of the TD-9901 Set and the TD-2425 Set. The plastic case of the TD-2425 Set nests in the opening in the box seen in the illustration of the TD-9901 Set. You get all Machine Screw sizes, pipe sizes, N.F. and N.C. sizes without duplication, listed below, Die Stocks TD-3, TD-10, TD-35 and TD-40, Tap Wrenches TD-4, TD-50, TD-88 and TD-98, also the TD-1040 Screw Pitch Gauge and a screwdriver. In TD-9901-1 fitted wood case.

TD-9901-1 Fitted Wood Case only

(C) **TD-2500 Machine Screw Set.** A set of high quality taps and dies to handle those small machine screw threading jobs. Dies are one-piece hexagon type, adjustable from .001" to .003" under or oversize. Includes taps and dies sizes 4-36, 6-32, 8-32, 10-24, 10-32 and 12-24 listed below, and the TD-4 4-Jaw Tap Wrench and TD-3 Die Stock. In fitted wood case.

TD-2500-1 Fitted Wood Case only.

(D) **TD-2400A Standard Set.** Dies are one-piece double hexagon type and can be used with a 1" socket in close quarters. This popular set contains N.F. sizes ¼"-28, 5/16"-24, ⅜"-24, 7/16"-20, ½"-20; N.C. sizes ¼"-20, 5/16"-18, ⅜"-16, 7/16"-14, ½"-13 and ⅛" pipe thread, together with TD-88 Tap Wrench and TD-10 self-centering Die Stock. In fitted wood case.

TD-2400A-1 Fitted Wood Case only.

(E) **TD-7800A Intermediate Set.** Handles N.F. and N.C. thread sizes ½" to ¾". The dies in this set are one-piece 1½" diameter round type. N.F. sizes are ½"-20, 9/16"-18, ⅝"-18, ¾"-16. N.C. sizes are ½"-13, 9/16"-12, ⅝"-11, ¾"-10. The TD-35 Self-centering Die Stock and TD-98 Tap Wrench complete the set which comes in a sturdy fitted wood case as illustrated.

TD-7800A-1 Fitted Wood Case only.

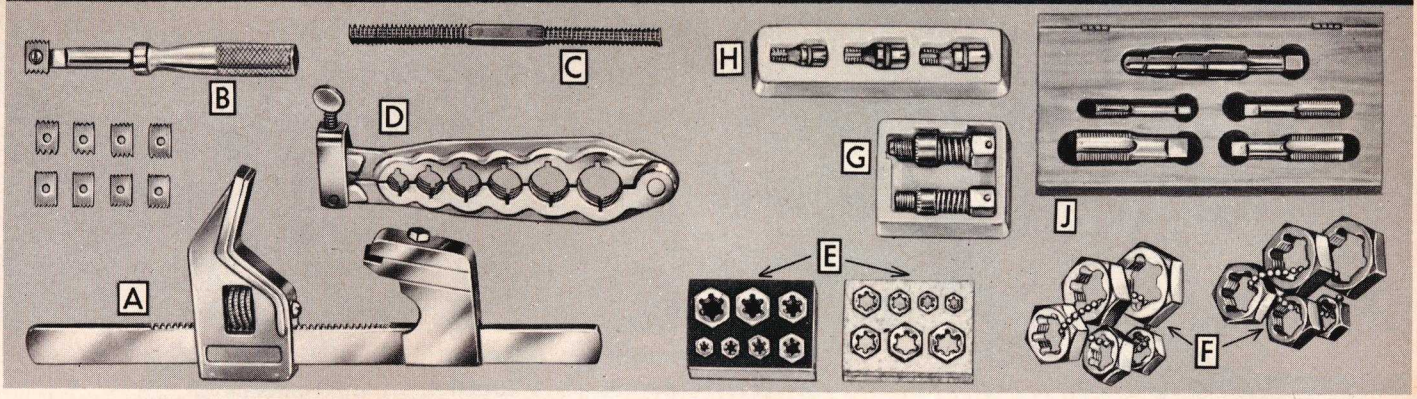
Metric sizes of Taps and Dies are listed on page 52.

Blue-Point® TAPS AND DIES

National Fine Sizes				National Coarse Sizes				Machine Screw Sizes			
Thread Size	TAPS Stock No.	DIES Stock No.	DIES Type	Thread Size	TAPS Stock No.	DIES Stock No.	DIES Type	Thread Size	TAPS Stock No.	DIES Stock No.	DIES Type
¼" –28	T-105	D-015	1" Hexagon	¼" –20	T-100	D-010	1" Hexagon	4–36	T-111	D-021	⅝" Hexagon
5/16"–24	T-106	D-016	1" Hexagon	5/16"–18	T-101	D-011	1" Hexagon	6–32	T-112	D-022	⅝" Hexagon
⅜" –24	T-107	D-017	1" Hexagon	⅜" –16	T-102	D-012	1" Hexagon	8–32	T-113	D-023	⅝" Hexagon
7/16"–20	T-108	D-018	1" Hexagon	7/16"–14	T-103	D-013	1" Hexagon	10–24	T-114	D-024	⅝" Hexagon
½" –20	T-109	D-019	1" Hexagon	½" –13	T-104	D-014	1" Hexagon	10–32	T-115	D-025	⅝" Hexagon
½" –20	.....	▲DR-019	1½" Round	½" –13	.....	▲DR-014	1½" Round	12–24	T-116	D-026	⅝" Hexagon
9/16"–18	T-125	▲DR-035	1½" Round	9/16"–12	T-120	▲DR-030	1½" Round				
⅝" –18	T-126	▲DR-036	1½" Round	⅝" –11	T-121	▲DR-031	1½" Round				
¾" –16	T-127	▲DR-037	1½" Round	¾" –10	T-122	▲DR-032	1½" Round				
⅞" –14	T-128	▲DR-042	2" Round	⅞" – 9	T-123	▲DR-040	2" Round				
1" –14	T-129	▲DR-043	2" Round	1" – 8	T-124	▲DR-041	2" Round				
								Pipe Sizes			
								⅛"	T-110	D-020	1" Hexagon
								¼"	T-130	D-040	1" Hexagon
								¼"		DR-033	1½" Round

▲ Federal Specs: GGG-W-631A applies to all items on this page indicated by this symbol ▲.

RESTORE BATTERED AND DAMAGED THREADS LIKE NEW



UNIVERSAL RETHREADING TOOLS

Ⓐ **TR-20B External Rethreading Set.** Here is a rethreading set that will handle practically all rethreading work you'll run across and do a fast job of restoring it to original condition.

The tool has a capacity of ½" to 5¾" diameter for bolt threads and ¼" to 4" for pipe threads. Eight chasers with two sizes each are included with the TR-20A to recut threads from 4 to 24 pitch. The TR-20-19 chaser is available as an additional unit. Chasers are machined from high quality tool steel and are carefully heat treated to assure long wearing cutting edges. A metal ring is provided for convenience in holding the chasers.

The chaser holding bracket of the tool is so designed that threads can be recut right up to a beveled edge or square shoulder. The adjustable jaw has a liner of soft brass to protect the threads from further damage while being recut. This liner is subject to hard wear but it can be easily replaced.

TR-20-5 Soft Brass Liner

Chasers — Stock No. and Thread Pitch

TR-20-10	4 & 5	**TR-20-14**	11½ & 12
TR-20-11	6 & 7	**TR-20-15**	13 & 14
TR-20-12	8 & 9	**TR-20-16**	16 & 18
TR-20-13	10 & 11	**TR-20-17**	20 & 24

TR-20-19 4½ & 7½ threads. The 7½ side is for fire hose fittings. Not included with the TR-20B or TR-25A sets.

Ⓑ INTERNAL THREAD CHASER HOLDER

An especially handy tool for restoring internal threads and a companion to the TR-20 set listed above. This internal thread restorer makes use of the same eight chasers TR-20-10 to -17 listed above. Unit is made of steel with a knurled handle for firm grip as shown. Chaser is held by threaded screw in end of stem. Plated and smoothly finished.

Ⓑ **TR-25-1 Internal Thread Chaser Holder.**

TR-25A Internal Thread Chaser Set. Consists of TR-25-1 Internal thread chaser holder, and thread chasers (listed above), TR-20-10, 11, 12, 13, 14, 15, 16 and 17.

THREAD RESTORERS

Ⓒ A few strokes across battered threads, produce a true new thread — nut will then go on easily. Each tool has 8 thread sizes.

TF-1124 Has 11, 12, 13, 14, 16, 18, 20, and 24 threads to the inch.

TF-1127 Has 9, 10, 15, 16, 20, 26, 28, and 32 threads to the inch.

AXLE RETHREADING TOOL

Ⓓ **AR-6A Axle Rethreader.** Here is a tool that does a fast job of restoring battered axle threads. Though very compact it contains the six most popular axle thread sizes in use. Tool is placed around the axle where the thread is still in good condition. The end clamp holds the two pieces securely in place while the tool is worked over the damaged part to restore it to its original condition. Contains the following sizes: ⅝"-18, ¾"-16, ⅞"-14, 1"-14, 1⅛"-12 and 1¼"-12.

Ⓔ RETHREADING DIE SETS

You can remove nicks and burrs and have clean, properly fitting studs and cap screws in just a few seconds time. The fine thread series have natural finish and the coarse thread series a copper finish. These dies are built for chasing work only and not for cutting new threads.

TRC-7A Rethreader Kit. Consists of the seven National Coarse sizes listed below.

TR-2520	Chaser ¼" x 20 thread
TR-3118	Chaser 5/16" x 18 thread
TR-3716	Chaser ⅜" x 16 thread
TR-4314	Chaser 7/16" x 14 thread
TR-5013	Chaser ½" x 13 thread
TR-5612	Chaser 9/16" x 12 thread
TR-6211	Chaser ⅝" x 11 thread

TRF-7A Rethreader Kit. Contains the seven National Fine sizes listed below.

TR-2528	Chaser ¼" x 28 thread
TR-3124	Chaser 5/16" x 24 thread
TR-3724	Chaser ⅜" x 24 thread
TR-4320	Chaser 7/16" x 20 thread
TR-5020	Chaser ½" x 20 thread
TR-5618	Chaser 9/16" x 18 thread
TR-6218	Chaser ⅝" x 18 thread

Ⓕ RETHREADING DIE SETS FOR LARGER SIZE BOLTS

Similar to the Nos. TRC-7A and TRF-7A above. Flexible, ball link chain keeps dies together to prevent loss.

TRC-5 Rethreader Set. Copper finish. The five National Coarse sizes listed below:

TR-7510	Chaser ¾" x 10 thread
TR-8759	Chaser ⅞" x 9 thread
TR-10008	Chaser 1" x 8 thread
TR-11257	Chaser 1⅛" x 7 thread
TR-12507	Chaser 1¼" x 7 thread

TRF-5 Rethreader Set. Natural finish. Consists of five National fine sizes listed below:

TR-7516	Chaser ¾" x 16 thread
TR-8714	Chaser ⅞" x 14 thread
TR-10014	Chaser 1" x 14 thread
TR-11212	Chaser 1⅛" x 12 thread
TR-12512	Chaser 1¼" x 12 thread

SPARK PLUG HOLE RECONDITIONERS

Clean both the spark plug hole threads and the spark plug seat in one quick operation. Have threaded portion on one end, a 13/16" hex shape on opposite end and have a spring loaded, serrated section at top of threaded section. A heavy spring keeps tension on this serrated section and insures thorough cleaning job on spark plug seat as tool is threaded into the hole. Three equally spaced grooves in threaded section loosen and collect dirt and chips. The friction ball in hex end secures tool to socket.

TCS-14 Spark Plug Hole Reconditioner for 14MM holes encountered on GM, Chrysler products and others. Length 2 13/16".

TCS-18 Spark Plug Hole Reconditioner for 18MM holes encountered on Ford family line products and others. Length 2⅝".

Ⓖ **TCS-1418** Spark Plug Hole Reconditioner Set contains one of each of the above packed in plastic box with sleeve type cover, instructions included.

INVERTED FITTING CHASER SET

Ⓗ **TDC-3 Chaser Set.** Designed to retap and rethread tube fittings of the inverted flared type. By restoring damaged threads in these units you can save yourself the time required to remove the old fitting, replacing with a new one and then reflaring the tube. The three sizes below fit most hydraulic brake lines as well as some gas and oil lines in use on present day cars. Set contains 3 sizes as listed:

TDC-1224	⅜"-24 Chaser
TDC-1424	7/16"-24 Chaser
TDC-1620	½"-20 Chaser

SPARK PLUG TAP SET

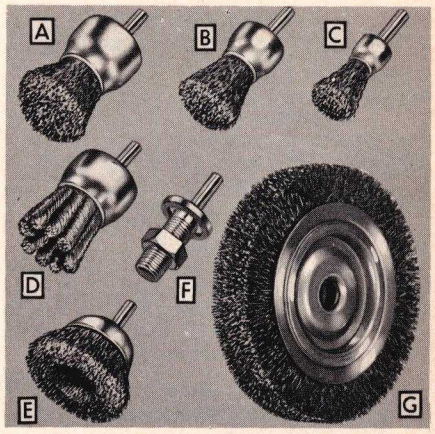
Ⓙ Quickly repairs damaged threads in aluminum heads. If the threads are badly stripped it may be necessary to rebore the hole with the counterboring tool and rethread for the next size spark plug. The MCB-3 Counterbore will ream a 10 mm. hole to a 14 mm., a 14 mm. to 18 mm., and an 18 mm. to a ⅞". The counterbore may be turned with a wrench or electric drill.

TDM-13 Spark Plug Set. Four Spark Plug Taps and Counterbore tool in TDM-11-1 fitted wood case as illustrated.

MCB-3 Counterbore.

T-10100	10mm. x 1.00 Tap
T-14125	14mm. x 1.25 Tap
T-18150	18mm. x 1.50 Tap
T-2818	⅞" x 18 N.F. Tap

TDM-11-1 Fitted Wood Case only.



CARBON BRUSHES AND ARBOR ADAPTORS

Crimped Wire Brushes. The folowing three sizes are made from high tensile crimped wire of .020 gauge to give long service life and satisfactory operation at high speed. Each has a ¼" diameter stem enabling their use in an electric drill. They are fine for removing carbon from cylinder heads, valve parts, etc.

Ⓐ **AC-2** 1⅛" Brush Diameter.

Ⓑ **AC-3** ¾" Brush Diameter.

Ⓒ **AC-4** ½" Brush Diameter.

Ⓓ **AC-7A Spiral Twist.** Brush diameter 1⅛". Has tightly twisted spirals of high quality .020" steel wire. ¼" stem. Will quickly remove heavy deposits.

Ⓔ **AC-240 Cup-Type.** Brush diameter 1⅝". Excellent for cleaning up tire rims and scuffing up inside of tire before cementing patch. Crimped .013" steel wire looped into hub. ¼" stem.

Ⓕ **A-24 Arbor Adaptor.** ¼" diameter shank. This unit adapts your electric drill to light grinding and wire brushing. Arbor is ½" dameter. Use with brushes and wheels up to 4" diameter.

Ⓖ **AC-414 Wire Brush.** 4¼" diameter, ¾" width of face. Made of .014" wire. Suitable for use on above arbor adaptor.

GRAB A MITTFUL OF SAFETY

"FLANK DRIVE"

DOUBLE OFFSET "BOXOCKETS"



Powerful Leverage . . . Strength . . . Balanced Design . . . Safety . . . Speed . . . Convenience

The revolutionary SNAP-ON *"Flank Drive"* wrench design gives you longer tool life, speeds repair jobs and protects nut and bolt heads . . . because it applies pressure on the side or flank of the nut or bolt instead of at the corner. See the full story on page five and you'll agree that SNAP-ON *"Flank Drive"* wrenches are your best buy.

1. Deeply offset heads are placed at a slight angle to the handle — this gives you clearance to reach countersunk nuts, cylinder head bolts, etc. — also gives knuckle saving clearance over obstructions.
2. The "box" or "ring-type" opening gives you the strongest, safest type of wrench you can use. The opening cannot spread, and the twisting leverage is applied equally to all corners of the unit.
3. Double hex openings are machined to strict tolerances to fit nuts and bolts snugly — take a new grip with only a 30° handle swing.
4. Thin side walls permit wrench heads to work in very tight places.
5. Chamfered openings help guide the wrench onto the nut or bolt head.
6. There are two different wrench openings on each handle.
7. Handles are flat with rounded edges to give a firm, comfortable grip.
8. Long handles provide ample direct-line leverage for breaking tough nuts loose or pulling them tight.
9. Complete size range from 3/8" to 1 5/8".
10. SNAP-ON "Boxockets" are hammer forged from high grade steel, heat treated to exacting standards of toughness and hardness for long, dependable service under constant use.
11. They are beauties, too, with a full polished chrome finish set off by the bright-finish recesses in the handles.
12. A complete set of these wrenches will give you greater working convenience and real wrench adaptability.

▲ "FLANK DRIVE" Double Hex Offset "Boxockets"

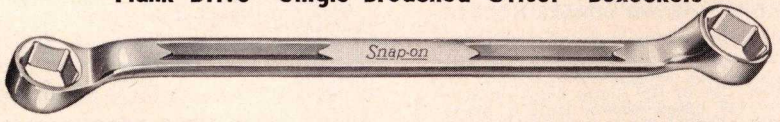
Wrench Size in Inches	Stock No.	Dia. of Heads in Inches	Overall Length
3/8 & 7/16	XV-1214	9/16 & 41/64	7 19/32"
7/16 & 1/2	XV-1416	41/64 & 47/64	8 3/16"
1/2 & 9/16	XV-1618	47/64 & 13/16	8 25/32"
9/16 & 5/8	XV-1820	13/16 & 29/32	9 23/64"
19/32 & 11/16	XV-1922	55/64 & 1	9 15/16"
5/8 & 11/16	XV-2022	29/32 & 1	9 15/16"
5/8 & 3/4	XV-2024	29/32 & 1 5/64	10"
11/16 & 13/16	XV-2226	59/64 & 1 11/64	10 1/2"
3/4 & 7/8	XV-2428	1 5/64 & 1 1/4	11"
25/32 & 13/16	XV-2526	1 1/8 & 1 5/64	11"
13/16 & 7/8	XV-2628	1 5/32 & 1 1/4	11 31/32"
7/8 & 15/16	XV-2830	1 1/4 & 1 11/32	13"
15/16 & 1	XV-3032	1 11/32 & 1 7/16	14"
15/16 & 1 1/16	XV-3034	1 11/32 & 1 17/32	14"
1 & 1 1/8	XV-3236	1 7/16 & 1 39/64	15"
1 1/16 & 1 1/8	XV-3436	1 33/64 & 1 39/64	15"
1 1/16 & 1 1/4	XV-3440	1 33/64 & 1 25/32	16"
1 3/16 & 1 5/16	XV-3842	1 43/64 & 1 7/8	17"
1 1/4 & 1 3/8	*XV-4044	1 25/32 & 1 31/32	18"
1 3/8 & 1 1/2	*XV-4448	1 31/32 & 2 9/64	19"
1 7/16 & 1 5/8	*XV-4652	2 3/64 & 2 5/16	21"

* Has standard double hex openings.

▲ "FLANK DRIVE" Single Hex "Boxockets"

Wrench Size in Inches	Stock No.	Dia. of Heads in Inches	Overall Length
3/8 & 7/16	XV-1214S	9/16 & 41/64	7 19/32"
7/16 & 1/2	XV-1416S	41/64 & 47/64	8 3/16"
1/2 & 9/16	XV-1618S	47/64 & 13/16	8 25/32"
9/16 & 5/8	XV-1820S	13/16 & 29/32	9 23/64"

"Flank Drive" Single Broached Offset "Boxockets"



Because these single hex "Boxockets" take a larger grip on all six sides of the nut than do double hex "Boxockets" they are extremely useful for turning nuts and bolts which are undersized, or are rusted on, or have badly chewed up corners. They are also good for turning Parker-Kalon or other self tapping screws.

XV-604S Single Hex Set. Consists of the four offset "Boxockets" listed at left: XV-1214S to XV-1820S. Get the entire set so that you are ready for those tough jobs.

Ⓐ **XV-619-K Double Hex Offset "Boxocket" Set.** This set contains 19 wrenches with a range of 3/8" to 1 5/8", XV-1214 to XV-4652 (except XV-2628 and XV-3034) in the C-190B vinyl-fabric kit bag. Provides 22 different wrench sizes with duplication of those needed most frequently.

XV-619 Set. Above set without kit bag.

Ⓑ **XV-611-K Double Hex Offset "Boxocket" Set.** Consists of the following 11 wrenches with a range from 3/8" to 1 1/4" — XV-1214, XV-1416, XV-1618, XV-1820, XV-1922, XV-2024, XV-2526, XV-2428, XV-3032, XV-3236, XV-3440, in C-113B vinyl fabric kit bag. Sixteen wrench sizes with six popular sizes duplicated for convenient use.

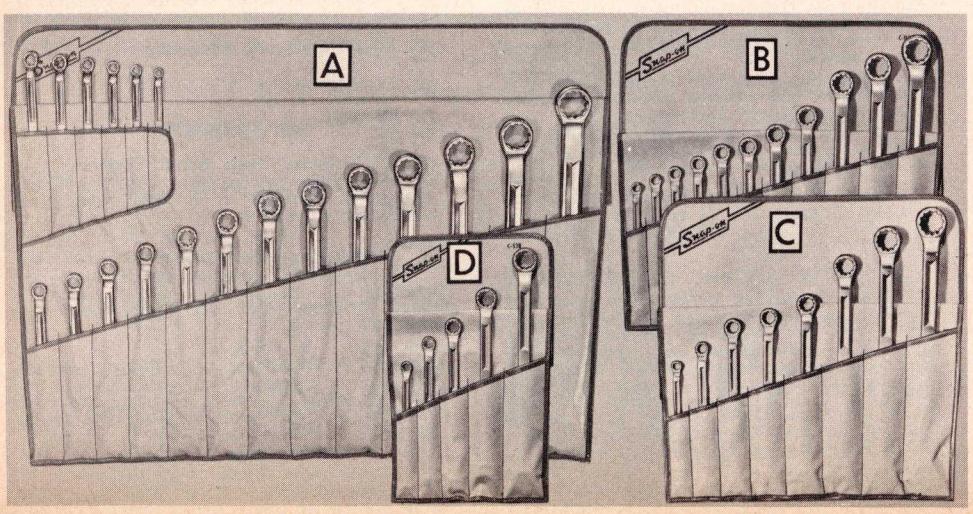
XV-611 Set. Tools only.

Ⓒ **XV-608-K Double Hex Offset "Boxocket" Set.** This set contains the following 8 wrenches with range from 3/8" to 1 1/4" — XV-1214, XV-1618, XV-1922, XV-2024, XV-2526, XV-2830, XV-3236, XV-3440 in the C-83B vinyl-fabric kit bag. Gives you 16 popular sizes.

XV-608 Set. Tools only.

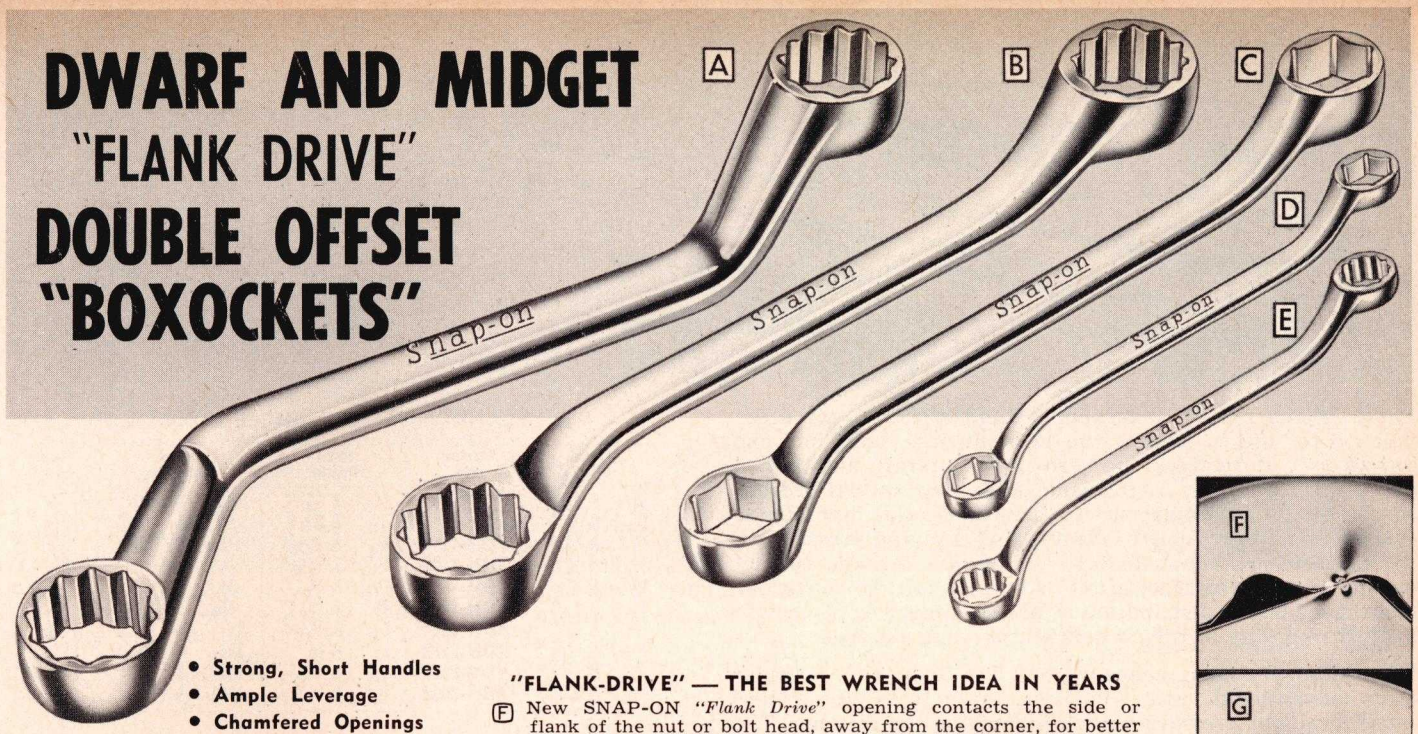
Ⓓ **XV-605-K Double Hex Offset "Boxocket" Set.** Contains 5 wrenches with a range 3/8" to 1": XV-1214, XV-1618, XV-2022, XV-2428, XV-3032 in the C-53B vinyl-fabric kit bag. Gives you ten different sizes.

XV-605 Set. Tools only.

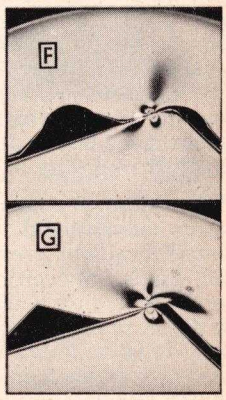


▲ Federal Specs: GGG-W-636D applies to all wrenches listed on this page.

DWARF AND MIDGET "FLANK DRIVE" DOUBLE OFFSET "BOXOCKETS"



- **Strong, Short Handles**
- **Ample Leverage**
- **Chamfered Openings**
- **Accurate Broaching**



"FLANK-DRIVE" — THE BEST WRENCH IDEA IN YEARS

(F) New SNAP-ON *"Flank Drive"* opening contacts the side or flank of the nut or bolt head, away from the corner, for better turning, wider stress distribution, less wear on fastener.

These wrenches are forged from high quality alloy steel, heat treated to give toughness and hardness. Full polished chrome finish.

(G) Conventional double hex wrench opening contacts the corner of the nut resulting in greater stress on both fastener and wrench and greater possibility of fastener wear and wrench slippage.

▲ "FLANK-DRIVE" (A) DEEP OFFSET — DOUBLE HEX

For those deep recessed nuts and bolts these Double Hex Offsets are the answer. They reach deep in to clear obstructions. The deep offsets also give greater knuckle clearance.

Wrench Size	Stock No.	Diameters of Heads	Overall Length
1/4" & 9/32"	XSO-89	25/64" & 7/16"	3 7/8"
*1/4" & 5/16"	XSO-810S	29/64" & 17/32"	4 31/64"
1/4" & 5/16"	XSO-810	3/8" & 29/64"	4 5/32"
5/16" & 3/8"	XSO-1012	29/64" & 17/32"	4 31/64"
3/8" & 7/16"	XSO-1214	17/32" & 5/8"	4 53/64"
7/16" & 1/2"	XSO-1416	5/8" & 45/64"	5 5/32"
1/2" & 9/16"	XSO-1618	45/64" & 51/64"	5 1/2"
9/16" & 5/8"	XSO-1820	51/64" & 7/8"	5 27/32"
5/8" & 3/4"	XSO-2024	7/8" & 1 3/64"	6 29/64"
11/16" & 13/16"	XSO-2226	31/32" & 1 1/8"	7 5/64"

* This wrench has single hex openings.

▲ "FLANK-DRIVE" (B) DOUBLE HEX TYPE

Work with only 30° handle movement.

Wrench Size	Stock No.	Diameters of Heads	Overall Length
3/16" & 7/32"	*XS-67	19/64" & 11/32"	3 7/8"
1/4" & 5/16"	XS-810	3/8" & 7/16"	4 1/4"
5/16" & 3/8"	XS-1012	7/16" & 17/32"	4 1/2"
3/8" & 7/16"	XS-1214	17/32" & 5/8"	4 13/16"
7/16" & 1/2"	XS-1416	5/8" & 11/16"	5 1/4"
1/2" & 9/16"	XS-1618	11/16" & 13/16"	5 1/2"
9/16" & 5/8"	XS-1820	13/16" & 29/32"	5 13/16"
5/8" & 3/4"	XS-2024	29/32" & 1 5/64"	6 3/16"
11/16" & 13/16"	XS-2226	31/32" & 1 3/32"	6 1/2"

* Standard, not Flank Drive hex opening.

▲ "FLANK-DRIVE" (C) SINGLE HEX TYPE

These single hex wrenches are preferred for turning worn or undersized nuts and bolts. Work with a 60° handle movement.

Wrench Size	Stock No.	Diameters of Heads	Overall Length
1/4" & 5/16"	XS-810S	3/8" & 7/16"	4 1/4"
5/16" & 3/8"	XS-1012S	7/16" & 17/32"	4 1/2"
3/8" & 7/16"	XS-1214S	17/32" & 5/8"	4 7/8"
7/16" & 1/2"	XS-1416S	5/8" & 11/16"	5 1/4"
1/2" & 9/16"	XS-1618S	11/16" & 13/16"	5 1/2"
9/16" & 5/8"	XS-1820S	13/16" & 29/32"	5 7/8"

▲ MIDGET OFFSET "BOXOCKETS" — "FLANK-DRIVE"

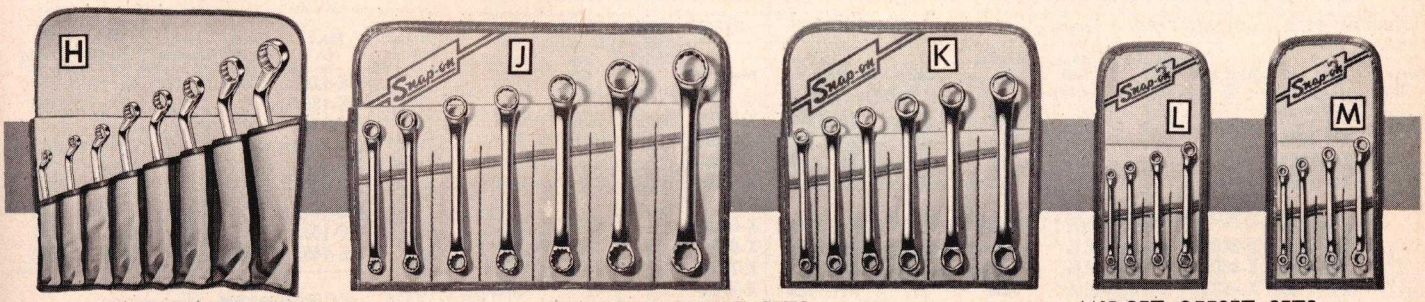
Time savers on ignition and carburetor work, aircraft and missiles, radio, television, etc., where tiny nuts must be turned. Ends are offset to clear small obstructions and openings are broached precisely. Forged from fine alloy steel, heat treated to assure durability. Polished chrome finish.

(D) SINGLE HEX TYPE

Wrench Size	Stock No.	Diameters of Heads	Overall Length
7/64" & 1/8"	XI-78	7/32" & 15/64"	2 15/32"
5/32" & 3/16"	XI-1012	17/64" & 19/64"	2 21/32"
7/32" & 15/64"	XI-1415	11/32" & 23/64"	3 3/32"
1/4" & 9/32"	XI-1618	3/8" & 27/64"	3 3/8"
5/16" & 11/32"	XI-2022	15/32" & 31/64"	3 3/4"

(E) DOUBLE HEX TYPE

Wrench Size	Stock No.	Diameters of Heads	Overall Length
3/16" & 13/64"	XID-1213	19/64" & 21/64"	2 13/16"
7/32" & 15/64"	XID-1415	11/32" & 23/64"	3 3/32"
1/4" & 9/32"	XID-1618	3/8" & 27/64"	3 3/8"
5/16" & 11/32"	XID-2022	15/32" & 31/64"	3 3/4"



DEEP OFFSET SET

(H) **XSO-608-K Dwarf Deep Offset, Double Hex Set.** Contains eight "Boxockets" XSO-810 to XSO-2226 in C-86B vinyl-fabric kit bag.

XSO-608 Set. Above set, tools only.

See pages 53-54 for Metric and British Standard Wrenches.

STANDARD OFFSET SETS

(J) **XS-607-K Dwarf Double Hex Set.** Contains seven double hex "Boxockets" XS-1012 to XS-2226 in C-74D vinyl-fabric kit bag.

XS-607 Set. Above set, tools only.

(K) **XS-606S-K Dwarf Single Hex Set.** Contains six single hex "Boxockets" listed above, in C-60D kit bag.

XS-606S Set. Above set, tools only.

MIDGET OFFSET SETS

(L) **XI-604A-K Midget Single Hex Set.** Four "Boxockets" XI-1012 to XI-2022, in C-41D kit bag.

XI-604A Set. Above set, tools only.

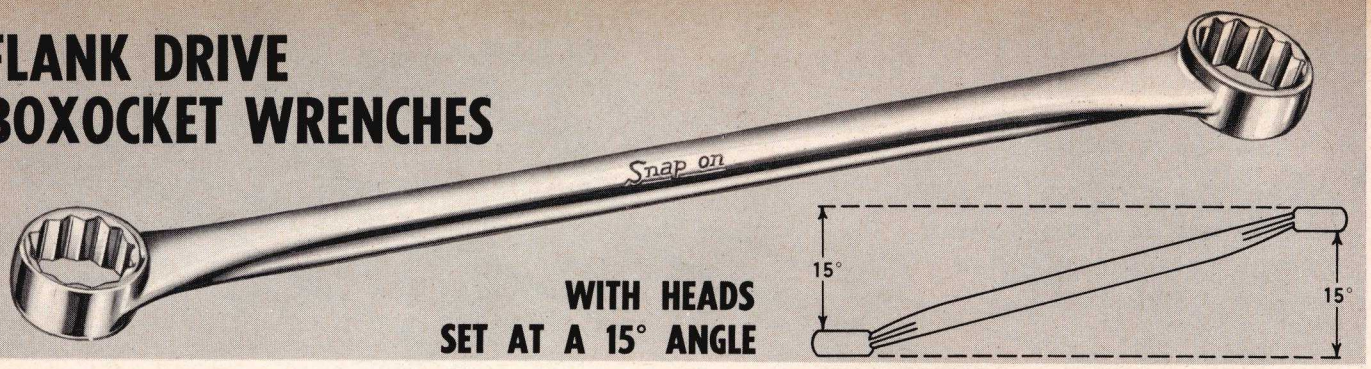
XID-605 Midget Single Hex Set. XI-78, XI-1012, XID-1415, XID-1618 and XID-2022.

(M) **XID-604-K Midget Double Hex Set.** Four "Boxockets" XID-1213 to XID-2022, in C-41D kit bag.

XID-604 Set. Above set, tools only.

▲ **Federal Specs: GGG-W-636D applies to all items in this page.**

FLANK DRIVE BOXOCKET WRENCHES



WITH HEADS SET AT A 15° ANGLE

These *"Flank Drive"* Boxockets (Patent 3,273,430) were developed for use in turning the 12-point nuts, bolts and cap screws used throughout the aero-space, aircraft, automotive and other industries. At the same time their special broaching is equally advantageous for turning regular 6-point hex bolts and nuts. Here's why. Instead of applying pressure on the corner the *"Flank Drive"* wrench walls make contact on the side or "flank" of a nut or bolt. Result: more surface contact for better distribution of pressure, greater protection against rounding of the corners and wrench slippage.

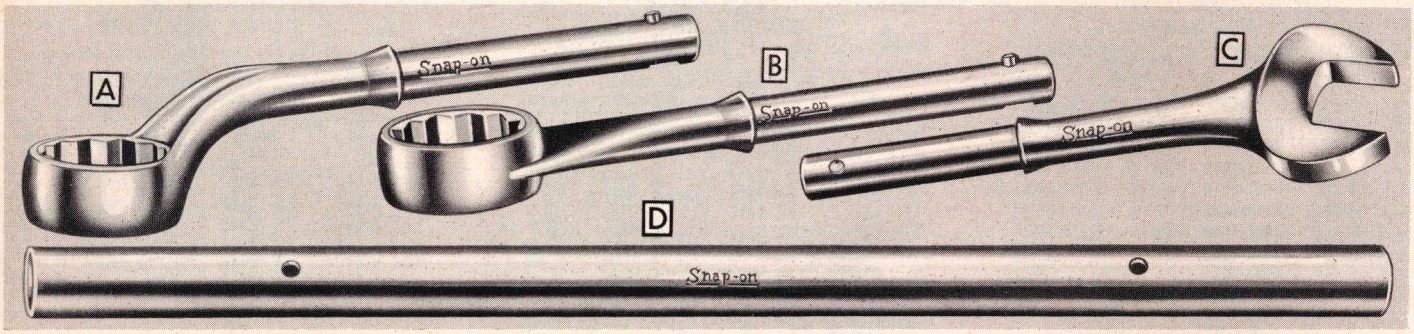
"Flank Drive" design makes the tool 5 to 10 per cent stronger than conventional units — lets you apply 15 to 20 per cent more torque or pressure without damaging the fastener. The 15° angle between the heads and the handle provides clearance over obstructions and for the user's fingers, yet gives a direct pulling leverage. A light chamfer around each opening helps to guide the wrench over the fastener. Each tool has two wrench sizes. Handle is smooth, round and easy to grasp and the tool is chrome plated.

▲ FLANK DRIVE 15° ANGLE BOXOCKETS

Wrench Sizes	Stock No.	Head Depths	Head Diameters	Overall Length
1/4" & 5/16"	XDH-810	3/16" & 7/32"	3/8" & 7/16"	7 1/4"
5/16" & 3/8"	XDH-1012	7/32" & 5/16"	7/16" & 37/64"	7 7/8"
3/8" & 7/16"	XDH-1214	5/16" & 11/32"	37/64" & 21/32"	8 1/2"
7/16" & 1/2"	XDH-1416	11/32" & 11/32"	21/32" & 3/4"	8 7/8"
1/2" & 9/16"	XDH-1618	11/32" & 3/8"	3/4" & 53/64"	9 1/4"
9/16" & 5/8"	XDH-1820	3/8" & 7/16"	53/64" & 59/64"	9 5/8"
11/16" & 3/4"	XDH-2224	7/16" & 15/32"	1" & 1"	11 1/8"
25/32" & 13/16"	XDH-2526	1/2" & 1/2"	1 7/64" & 1 11/64"	11 7/8"
7/8" & 15/16"	XDH-2830	9/16" & 9/16"	1 1/4" & 1 11/32"	12 15/16"
5/16" & 1"	XDH-3032	5/8" & 5/8"	1 11/32" & 1 13/32"	13 9/16"

XDH-610 Set. We list this set for the convenience of the tool buyer who wishes to order the full range of the above ten Flank Drive 15° Angle Boxockets.

XDH-610-K Set. The above set in a sturdy C-114-B Vinyl fabric kit bag.



HEAVY DUTY "BOXOCKETS" AND OPEN END WRENCHES WITH TUBULAR HANDLES

Interchangeable straight "Boxockets," offset "Boxockets" and Open Ends give you power and versatility to reach nuts with different clearance problems. Wrenches can be used to run nuts down quickly, and the handle slipped on for final tightening or to reach otherwise inaccessible nuts. Wrench shaft stop helps to align locking button with handle hole. Wrench and handle lock solidly — can't be separated accidentally — an important safety factor. "Boxocket" heads are strong, compact and require little clearance . . . double hex opening permits nut turning when handle movement is limited.

Open End heads are used where obstructions prevent entrance of a "Boxocket." The angled opening permits flopping the wrench for a new grip in close places. Handles are made of high grade seamless steel tubing for safe powerful leverage.

Ⓐ Ⓑ STRAIGHT AND OFFSET "BOXOCKETS"

STRAIGHT TYPE		OFFSET TYPE		Assem. Length from Bolt Center	For Handle No.
Wrench Size	Stock No. Ⓑ	Stock No. Ⓐ	Height of Offset		
3/4"	XH-124A	—	—	18 1/4"	15A
13/16"	XH-126A	—	—	18 1/4"	15A
7/8"	XH-128A	—	—	18 1/4"	15A
15/16"	XH-130A	—	—	18 3/4"	15A
1"	XH-132A	—	—	18 3/4"	15A
1 1/16"	XH-134A	X-340A	15/16"	21 3/4"	18A
1 1/8"	XH-136A	X-360A	1"	21 3/4"	18A
1 1/4"	XH-140A	X-400A	1 1/16"	21 3/4"	18A
1 5/16"	XH-142A	X-420A	1 1/8"	29 1/2"	24A
1 3/8"	—	X-440A	1 3/16"	29 1/2"	24A
1 7/16"	XH-146A	X-460A	1 1/4"	29 1/2"	24A
1 1/2"	XH-148A	X-480A	1 5/16"	29 1/2"	24A
1 9/16"	—	X-500A	1 5/16"	29 1/2"	24A
1 5/8"	XH-152A	X-520A	1 3/8"	29 1/2"	24A

STRAIGHT TYPE		OFFSET TYPE		Assem. Length from Bolt Center	For Handle No.
Wrench Size	Stock No. Ⓑ	Stock No. Ⓐ	Height of Offset		
1 11/16"	XH-154A	X-540A	1 7/16"	35 3/4"	30A
1 3/4"	XH-156A	X-560A	1 1/2"	35 3/4"	30A
1 13/16"	XH-158A	X-580A	1 9/16"	35 3/4"	30A
1 7/8"	XH-160A	X-600A	1 5/8"	35 3/4"	30A
2"	XH-164A	X-640A	1 3/4"	35 3/4"	30A
2 1/16"	XH-166A	X-660A	1 3/4"	35 3/4"	30A
2 3/16"	XH-170A	X-700A	1 7/8"	35 3/4"	30A
2 1/4"	XH-172A	X-720A	1 7/8"	42"	30A
2 3/8"	XH-176A	X-760A	2"	42"	36A
2 9/16"	XH-182A	X-820A	2 1/4"	42"	36A
2 5/8"	XH-184A	X-840A	2 1/4"	42"	36A
2 3/4"	XH-188A	X-880A	2 1/2"	42"	36A
2 15/16"	—	X-940A	2 5/8"	42"	36A
3 1/8"	XH-1100A	X-1000A	2 3/4"	42"	36A

Ⓒ OPEN END WRENCHES

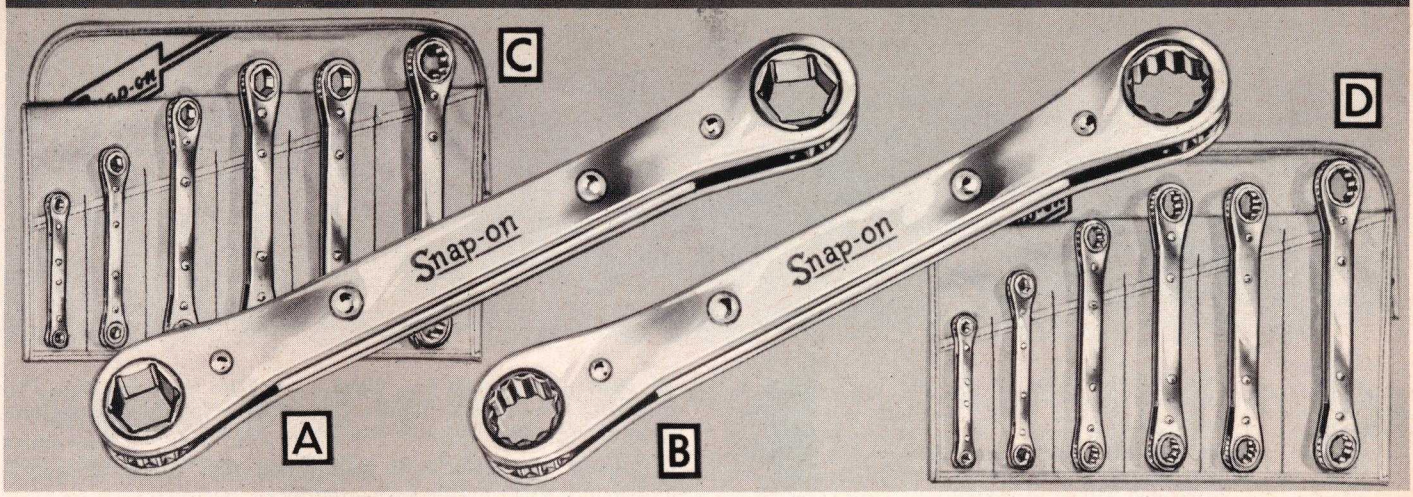
Wrench Size	Stock No.	Head Depth	Head Diameter	Length With Handle	Fits Handle
7/8"	OE-128A	1/2"	1 15/16"	21 7/8"	15A
15/16"	OE-130A	1/2"	1 15/16"	21 7/8"	15A
1"	OE-132A	9/16"	2 5/16"	25 1/16"	18A
1 1/16"	OE-134A	9/16"	2 5/16"	25 1/16"	18A
1 1/8"	OE-136A	9/16"	2 5/16"	25 1/16"	18A
1 1/4"	OE-140A	5/8"	2 11/16"	26 3/8"	18A
1 5/16"	OE-142A	5/8"	2 11/16"	26 3/8"	18A
1 7/16"	OE-146A	1 1/16"	3 1/8"	31 5/8"	24A
1 1/2"	OE-148A	1 1/16"	3 1/8"	31 5/8"	24A

Ⓓ TUBULAR HANDLES

No.	Length	O.D.	I.D.
15A	15"	13/16"	5/8"
18A	18"	7/8"	11/16"
24A	24"	1 1/16"	7/8"
30A	30"	1 5/16"	1"
36A	36"	1 7/16"	1 1/8"

▲ Federal Specs: GGG-W-636D and XWS-2149 apply to XHD Series Boxockets.

Snap-on RATCHETING BOXOCKETS SPEED MANY JOBS



When working space is very limited and obstructions or long protruding bolts prevent the use of socket and ratchet handles, these Ratcheting Boxockets will prove to be the handiest time saving wrenches in your tool kit.

Sturdy, yet thin and flat, they reach into extremely close places. The ratchet action works very smoothly and gives a new bite with very small handle movement. The geared openings and the pawls have a black finish and the outside plates of the tool are chrome plated and polished to a high finish. Nos. R-810 and R-12-4 are single hex and the rest are double hex.

Both the single and double hex units have the SNAP-ON *Flank Drive* broaching. See page 5.

TWO POPULAR SETS

Ⓒ RB-606S-K Ratcheting Boxocket Set. Consists of five single hex wrenches R-810S, R-1214S, R-1618S, R-2022S, R-2426S and double hex wrench R-2830, in a C-62B vinyl fabric kit bag. 12 wrench sizes ¼" to 15/16".

RB-606S Set. Same set as above but without the kit bag.

Ⓓ RB-606A-K Ratcheting Boxocket Set. Consists of two single hex wrenches R-810S and R-1214S, and four double hex wrenches R-1618, R-2022, R-2426 and R-2830 in a C-62B vinyl fabric kit bag. 12 wrench sizes ¼" to 15/16".

RB-606A Set. Same set as above but without the kit bag.

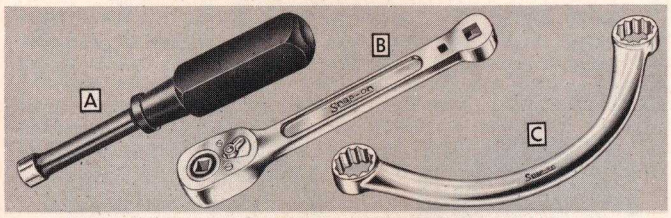
RANGE OF SIZES

▲ Ⓐ SINGLE HEX SERIES

Wrench Size	Stock Numbers	Head Thickness	Overall Length
¼" & 5/16"	R-810S	11/32"	49/32"
3/8" & 7/16"	R-1214S	11/32"	5½"
½" & 9/16"	R-1618S	3/8"	6 31/32"
5/8" & 11/16"	R-2022S	13/32"	7 15/16"
¾" & 13/16"	R-2426S	7/16"	7 21/32"

▲ Ⓑ DOUBLE HEX SERIES

½" & 9/16"	R-1618	3/8"	6 31/32"
5/8" & 11/16"	R-2022	13/32"	7 15/16"
¾" & 13/16"	R-2426	7/16"	7 21/32"
⅞" & 15/16"	R-2830	7/16"	8 11/16"



▲ Ⓐ NUT DRIVERS

BLUE-POINT Nut Drivers are excellent for all electrical work. Their single hex openings fit like a socket wrench for a firm grip and their thin walls eliminate clearance problems. Have black, shock proof plastic handles. Metal shank is covered with fire-resistant, shock proof plastic. Each has different color. Openings are single hex.

ND-1050 Nut Driver Set. Consists of one each of the drivers listed below.

- **ND-108** ¼" Single Hex Flank Drive
- **ND-110** 5/16" Single Hex Flank Drive
- **ND-111** 11/32" Single Hex Flank Drive
- **ND-112** 3/8" Single Hex Flank Drive
- **ND-114** 7/16" Single Hex Flank Drive

Ⓑ REFRIGERATION RATCHET

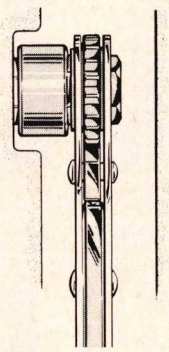
R-70B Special Refrigeration Ratchet. Four-in-one wrench for valve stem, coupling, and general refrigeration work. Reverse ratchet head has a ¼" square opening — the small head contains a ½" single hex and a 5/16" square wrench opening, a 3/16" square wrench opening is broached through the flat handle near to the small head. The tool is 6½" long. Ratchet mechanism is fully enclosed and convenient lever reverses the action . . . needs only 20° handle movement to get a new "bite." Head has spring loaded ball sealed oil hole.

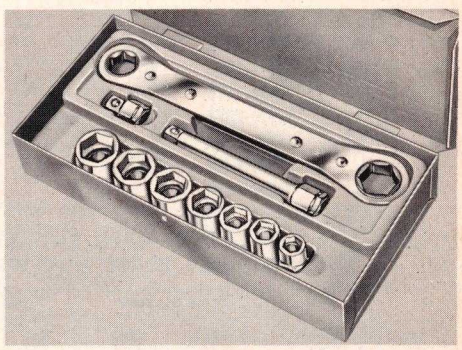
Ⓒ HALF MOON "BOXOCKETS"

When you find it impossible to reach a nut or bolt with a socket or a straight-handle wrench these curved handle "Boxockets" reach around obstructions to service those hard-to-reach nuts.

CX-605 Set. Contains all five Half Moon "Boxockets" at right.

Wrench Size	Stock No.	Handle Radius	Overall Length
7/16" & ½"	CX-1416	2 15/64"	5"
9/16" & 5/8"	CX-1820	2 9/16"	6½"
5/8" & ¾"	CX-2024	3 1/16"	7¾"
11/16" & 13/16"	CX-2226	3½"	8½"
⅞" & 15/16"	CX-2830	4 1/16"	10"





LOW CLEARANCE RATCHETING SOCKET SET

Gives you many working conveniences including unlimited bolt clearance and ratcheting action. It requires only minimal working clearance enabling fast, efficient service or single hex fasteners in automotive and industrial maintenance work.

The ratcheting "Boxocket" has 5/8" and ¾" single hex *Flank Drive* broachings, and may be used with the sockets in this set or by itself to turn hexagon nuts. The sockets and extensions have a 5/8" single hex male drive with an external retaining ring. The two smallest sockets and the extension bars also have a ball-stop. Sockets have 3/8" square drive broaching which provides bolt clearance when used with the ratcheting "Boxocket", and which accepts the male drive of the extensions and/or any "Ferret" handle. The extensions have a 3/8" male square drive with a friction ball. The sockets have *Flank Drive* single hex openings. All units are chrome plated.

The set nests in a molded plastic tray and metal box making it very convenient to carry to the job.

AFR-100A-B LOW CLEARANCE SOCKET SET

SET CONTAINS UNITS BELOW AND AT RIGHT

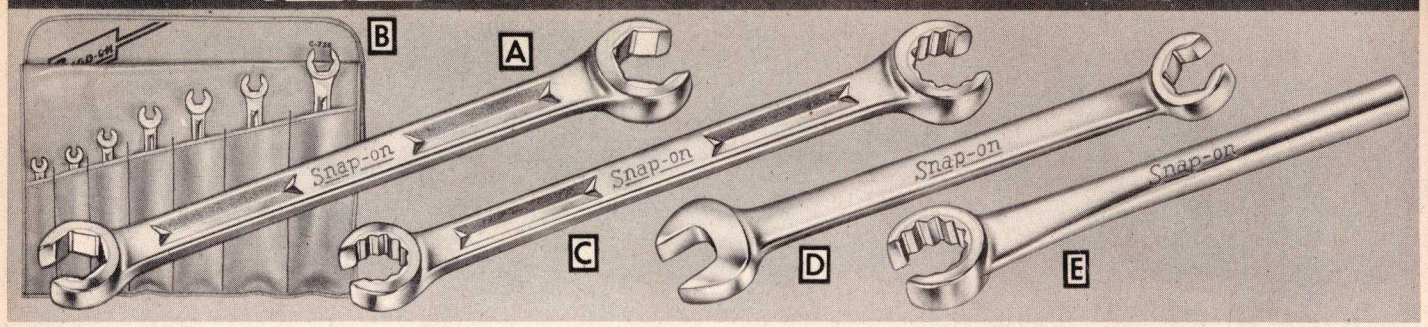
- **R-720-SH** 5/8" & ¾" Single Hex Ratcheting Boxocket.
- **AFX-1A** ... 5/8" to 3/8" Adaptor
- **AFX-4A** .... 4" Extension Bar
- **KRA-129** ..... Metal Box
- **SPP-87A** ..... Plastic Tray

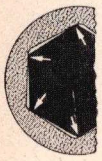
Wrench Size	Stock No.	Outside Diameter Socket End	Outside Diameter Hdle. End	Overall Length
3/8"	AF-120A	9/16"	5/8"	1"
7/16"	AF-140A	21/32"	5/8"	1"
½"	AF-160A	23/32"	5/8"	1"
9/16"	AF-180A	27/32"	5/8"	1 1/32"
5/8"	AF-200A	15/16"	5/8"	1 1/8"
11/16"	AF-220A	1"	5/8"	1 3/16"
¾"	AF-240A	1 1/16"	5/8"	1 3/16"

AFR-100A Set. Above Set without metal box.

▲ Federal Specs: GGG-W-636d applies to Ratcheting Boxocket Wrenches. GGG-W-641d applies to Nut Drivers.

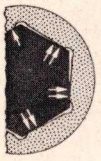
Snap-on FLANK DRIVE FLARE NUT WRENCHES





Left: Ordinary flare nut wrench places all of the turning stress on the corner.

Right: *"Flank Drive"* wrench contacts the side of the nut, turns it easier and without damage.



Ⓐ **Double End, Single Hex, Flank Drive Flare Nut Wrenches.** Two different sizes on one handle. Heads are offset to give knuckle clearance — openings are angled for easier working.

Ⓒ **Double End, Flank Drive Double Hex Type.** Same pattern as above but with double hex openings.

Ⓓ **Combination Open End and Flank Drive Single Hex Flare Nut Wrenches.** Same size opening at each end. Both openings set at 15° angle to handle and heads at 15° offset for knuckle clearance.

Ⓔ **Single End, Flank Drive Double Hex Flare Nut Wrenches.** A favorite of many users who need certain sizes for constant use, such as assembly line work.

▲ Ⓐ DOUBLE END, FLANK DRIVE SINGLE HEX SERIES

Wrench Sizes	Stock No.	Head Diameters	Head Depths	Overall Length
1/4" & 5/16"	RXH-810S	13/32" & 1/2"	7/32" & 9/32"	4"
5/16" & 3/8"	RXH-1012S	25/32" & 45/64"	9/32" & 11/32"	5 11/16"
3/8" & 7/16"	RXH-1214S	51/64" & 7/8"	11/32" & 3/8"	6 1/4"
7/16" & 1/2"	RXH-1416S	7/8" & 31/32"	3/8" & 3/8"	6 15/16"
1/2" & 9/16"	RXH-1618S	31/32" & 1 1/16"	3/8" & 7/16"	7 1/2"
5/8" & 11/16"	RXH-2022S	1 7/64" & 1 15/64"	7/16" & 1/2"	7 21/32"
3/4" & 13/16"	RXH-2426S	1 15/64" & 1 11/32"	1/2" & 17/32"	8 7/8"

Ⓑ **RXH-607S-K Set.** Consists of the seven single hex Flare Nut Wrenches RXH-810S through RXH-2426S listed above, in C-75B Kit Bag.

RXH-607S Set. Above set without the kit bag.

▲ Ⓒ DOUBLE END, FLANK DRIVE DOUBLE HEX SERIES

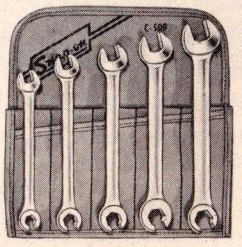
Wrench Sizes	Stock No.	Head Diameters	Head Depths	Overall Length
3/8" & 7/16"	RXH-1214	51/64" & 7/8"	11/32" & 3/8"	6 1/4"
15/32" & 17/32"	RXH-1517	7/8" & 31/32"	3/8" & 13/32"	6 1/4"
1/2" & 9/16"	RXH-1618	31/32" & 1 1/16"	3/8" & 7/16"	7 1/2"
5/8" & 11/16"	RXH-2022	1 7/64" & 1 15/64"	7/16" & 1/2"	8 1/2"
5/8" & 3/4"	RXH-2024	1 1/16" & 1 13/64"	7/16" & 1/2"	8 9/16"
3/4" & 1"	RXH-2432	1 15/64" & 1 19/32"	1/2" & 5/8"	9 3/16"
7/8" & 1 1/8"	RXH-2836	1 13/32" & 1 3/4"	9/16" & 11/16"	9 7/8"

▲ Ⓓ COMBINATION OPEN END AND SINGLE HEX FLANK DRIVE FLARE NUT WRENCHES

Wrench Size	Stock No.	Head Diameter		Head Depth		Overall Length
		Box End	Open End	Box End	Open End	
5/16"	RXS-10	45/64"	21/32"	5/16"	5/16"	5 3/16"
3/8"	RXS-12	51/64"	13/16"	11/32"	11/32"	5 7/8"
7/16"	RXS-14	57/64"	15/16"	3/8"	3/8"	6 3/8"
1/2"	RXS-16	63/64"	1 3/32"	25/64"	3/8"	6 15/16"
9/16"	RXS-18	1 1/16"	1 7/32"	7/16"	7/16"	7 3/8"
5/8"	RXS-20	1 7/64"	1 11/32"	7/16"	7/16"	7 7/8"
11/16"	RXS-22	1 7/64"	1 7/16"	15/32"	15/32"	8 3/8"
3/4"	RXS-24	1 15/64"	1 9/16"	1/2"	1/2"	9 1/8"

▲ Ⓔ SINGLE END, FLANK DRIVE DOUBLE HEX SERIES

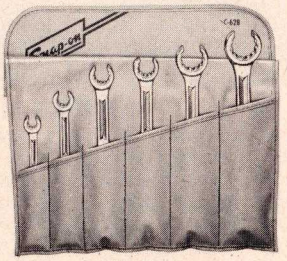
Wrench Size	Stock No.	Head Diameter	Head Depth	Overall Length	Wrench Size	Stock No.	Head Diameter	Head Depth	Overall Length
3/8"	RX-12	3/4"	9/32"	6 1/8"	1"	RX-32	1 19/32"	21/32"	7 25/32"
7/16"	RX-14	53/64"	5/16"	6 13/32"	1 1/16"	RX-34	1 43/64"	23/32"	7 27/32"
1/2"	RX-16	15/16"	11/32"	6 23/32"	1 1/8"	RX-36	1 49/64"	3/4"	7 7/8"
9/16"	RX-18	1"	13/32"	6 1/2"	1 3/16"	RX-38	1 27/32"	25/32"	7 15/16"
5/8"	RX-20	1 5/64"	7/16"	6 3/4"	1 1/4"	RX-40	1 15/16"	27/32"	7 31/32"
11/16"	RX-22	1 11/64"	15/32"	7 1/16"	1 5/16"	RX-42	2"	7/8"	13"
3/4"	RX-24	1 1/4"	17/32"	7 3/8"	1 3/8"	RX-44	2 3/32"	7/8"	13 1/16"
13/16"	RX-26	1 11/32"	17/32"	7 5/32"	1 1/2"	RX-48	2 17/64"	31/32"	13 1/8"
7/8"	RX-28	1 27/64"	19/32"	7 23/32"	1 5/8"	RX-52	2 27/64"	1"	13 7/32"
15/16"	RX-30	1 1/2"	19/32"	7 3/4"					



Combination Open End and Flare Nut Wrench Set

RXS-605-K Set. Consists of the five combination Open End and Flare Nut Wrenches RXS-12 through RXS-20 in C-50B kit bag.

RXS-605 Set. Above set without kit bag.



Double End, Double Hex Flare Nut Wrench Set

RXH-606-K Set. Consists of the six double hex Flare Nut wrenches RXH-1214, RXH-1618, RXH-2022, RXH-2024, RXH-2432 and RXH-2836, in C-62B Kit Bag.

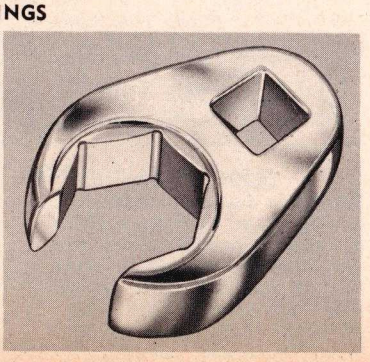
RXH-606 Set. Above set without kit bag.

CROWFOOT WRENCHES WITH SINGLE HEX FLANK DRIVE OPENINGS

These wrenches speed and ease the servicing of soft metal flare nut fittings encountered on fuel lines, transmission lines, cooler lines, etc. Their *"Flank Drive"* design prevents rounding or distortion of the fitting corners and also reduces contact stresses and deformation of the wrench. The single hex configuration allows greater torque application without slipping. This feature is particularly important when "frozen" fittings are encountered. For use with a 3/8" drive handle, they enable you to use the most suitable handle for the job, such as a ratchet for speed, a Torqometer to insure correct tightening, a combination of extension and handle to reach into recessed areas, etc. Because they reduce unnecessary damage and enable rapid and efficient work, even on hard-to-reach fittings, these tools are invaluable to mechanics in the automotive, aircraft, and aero-space industries. Chrome plated finish.

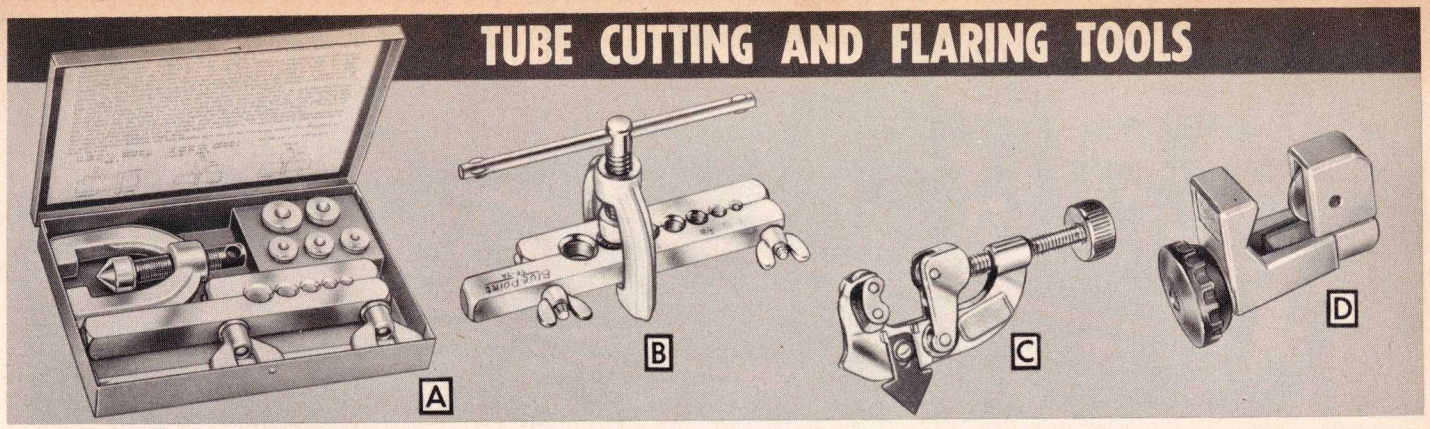
Wrench Size	Stock Number	Head Thickness	Head Width	Overall Length
3/8"	FRH-120S	3/8"	7/8"	1 11/32"
7/16"	FRH-140S	3/8"	29/32"	1 13/32"
1/2"	FRH-160S	3/8"	1"	1 7/16"
9/16"	FRH-180S	7/16"	1 1/8"	1 5/8"
5/8"	FRH-200S	7/16"	1 1/8"	1 5/8"
11/16"	FRH-220S	1/2"	1 5/16"	1 25/32"
3/4"	FRH-240S	1/2"	1 5/16"	1 25/32"

207S-FRH Set. Consists of one each of above single hex Flank Drive crowfoot wrenches.



▲ Federal Specs: Flare Nut Wrenches are covered by GGG-W-636D.

TUBE CUTTING AND FLARING TOOLS



Ⓐ **TF-5 Double Flaring Tool Set** makes double or single flares on soft steel, copper, brass or aluminum tubing from 3/16" to 1/2" O.D. The single flare is usually adequate on soft metal tubing but for thin steel tubing the double flare is necessary. Makes a smooth-fitting, crack-free, 45° flare every time of double the strength. Yoke is a steel forging. Set consists of 5 adaptors, yoke assembly, bar assembly and handle as illustrated in metal box, complete with instructions for fast, easy operation.

Ⓑ **TF-7A Flaring Tool** for 3/16", 1/4", 5/16", 3/8", 7/16" and 5/8" tubing — soft brass, copper or aluminum. Slip-on yoke offers exceptional ease and speed because it cannot twist or turn. Open bottom allows flares to be made where there is little clearance.

Ⓒ **TC-28 Tubing Cutter** for brass, copper and similar tubing from 1/8" to 1" diameter. Cutting wheel on pivoted arm is fed into tubing when screw is turned, two rollers hold tube firmly. Arm retracts by spring. Burrs easily removed by retractable reamer blade. Cutter wheel held by screw.

TC-28-1 Extra Cutter Wheel

Ⓓ **TC-123 Compact Tubing Cutter.** A small, precision-made tubing cutter for use in close working areas. Will handle tubing from 1/8" to 1/2" outside diameter. Can be used where clearance around tubing is less than 1 1/2 inches, often eliminates removing the tubing entirely. Total length: closed, 1 1/2" — open, 2". Feed knob is 1" diameter.

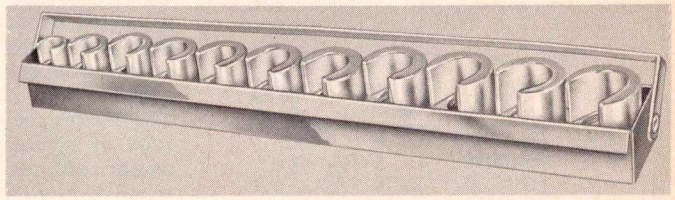
TC-123-1 Extra Cutter Wheel

SPECIAL SOCKETS FOR SERVICING "WEATHERHEAD" FITTINGS

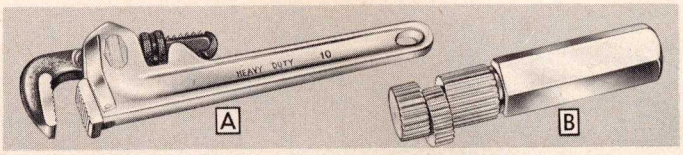
Fourteen sizes of special sockets are available to handle WEATHERHEAD fittings. The sockets range in size from 3/8" to 15/16" and are specially designed to quickly and easily service these soft brass and aluminum fittings while preventing costly, time-consuming breakage. They are also good for holding and protecting the fittings while connecting or disconnecting the lines.

211-FD-T 3/8" square drive Set contains eleven sockets ranging in size from 3/8" to 25/32". The set comes complete with the KTA-248 metal tray. A lip on the tray permits hanging the set on the side of a tool box, and the tray handle swivels over the top to prevent the sockets from falling out.

WH-280, WH-290, and WH-300 1/2" square drive Sockets are particularly useful for servicing the larger weatherhead fittings such as those used on both air and hydraulic brake lines in trucks, buses, airplanes, off-the-road machinery, etc. Greater turning power is required on these fittings, and these units provide for this with their 1/2" square drive which accepts the larger "Master" handles.



Size	Square Drive	Stock No.	Max. O.D.	Overall Length	Size	Square Drive	Stock No.	Max. O.D.	Overall Length
3/8"	3/8"	FD-120	5/8"	1 1/4"	21/32"	3/8"	FD-210	1 3/16"	1 3/8"
7/16"	3/8"	FD-140	13/16"	1 1/4"	11/16"	3/8"	FD-220	1 3/16"	1 3/8"
15/32"	3/8"	FD-150	7/8"	1 1/4"	3/4"	3/8"	FD-240	1 1/4"	1 3/8"
1/2"	3/8"	FD-160	15/16"	1 1/4"	25/32"	3/8"	FD-250	1 1/4"	1 3/8"
17/32"	3/8"	FD-170	1"	1 1/4"	7/8"	1/2"	WH-280	1 3/8"	1 13/16"
9/16"	3/8"	FD-180	1 1/16"	1 1/4"	29/32"	1/2"	WH-290	1 7/16"	1 13/16"
19/32"	3/8"	FD-190	1 3/16"	1 1/4"	15/16"	1/2"	WH-300	1 1/2"	1 13/16"



PIPE WRENCHES

▲ Ⓐ EXTERNAL TYPE

Movable jaw has pipe size markings. Flat and coil spring provides tension to grip pipe without wedging jaws. Hardened machine cut teeth.

No.	Lgth.	Cap.	No.	Lgth.	Cap.
PW-6A	6"	3/4"	PW-18A	18"	2 1/2"
PW-8A	8"	1"	PW-24A	24"	3"
PW-10A	10"	1 1/2"	PW-36A	36"	4 1/2"
PW-12A	12"	1 3/4"	PW-48A	48"	6"
PW-14A	14"	2"			

PWA-904 Set. Consists of four wrenches: the 6", 8", 10" and 14".

PWA-906 Set. Consists of the 6", 8", 10", 14", 18" and 24" sizes.

▲ Ⓑ INTERNAL TYPE

Center knurled section rotates in either direction to grip inside wall of pipe. Use any tool to turn hex handle. Excellent for removing or installing pipe, nipples or fittings.

No.	Size	No.	Size
PWN-4	1/8"	PWN-32	1"
PWN-8	1/4"	PWN-40	1 1/4"
PWN-12	3/8"	PWN-48	1 1/2"
PWN-16	1/2"	PWN-64	2"
PWN-24	3/4"		

PWN-904 Set. Consists of 4 sizes, PWN-12, PWN-16, PWN-24, and PWN-32. In buttoned plastic case.

RIVET TOOL AND KIT

Make tight, strong, vibration-free bonds in sheet metal, plastic, fiberglass, masonite, aluminum, etc. . . . no buckling, dimpling, fracturing, distortion or marred surfaces.

HP-2 Rivet Tool. With four interchangeable nose pieces to handle rivets 3/32" to 3/16" diameter. Working thickness 1/8" to 5/8" can be handled. Made from aluminum alloy . . . rugged, durable yet light weight. Includes a wrench.

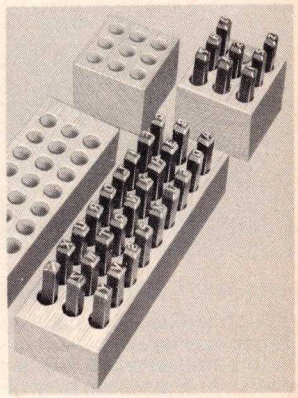
HP-200 Rivet Kit. Includes Rivet Tool above, 120° countersink, 1/8" drill bit and approximately 200 assorted rivets including buttonhead and countersunk types.

STEEL STAMPING SETS

Mark shop equipment, tools, rebuilt engines, transmissions, and other automotive parts with these useful sets for fast, positive identification. The stamps make large, 3/16" high characters for easy reading. The 5/16" square steel stamp bodies have been heat treated to minimize mushrooming, bending, battering, and chipping. Each unit is 2 1/2" long which enables taking a firm grip while leaving enough room to make a solid hammer blow. The sets are stored in two-piece wooden containers which have separate holes for each stamp.

GA-237 Set has nine stamps with which any Arabic number can be made. One stamp serves for both number 6 and 9.

GA-238 Set has 27 stamps including all letters of the alphabet and a period.



HP-200 RIVET KIT

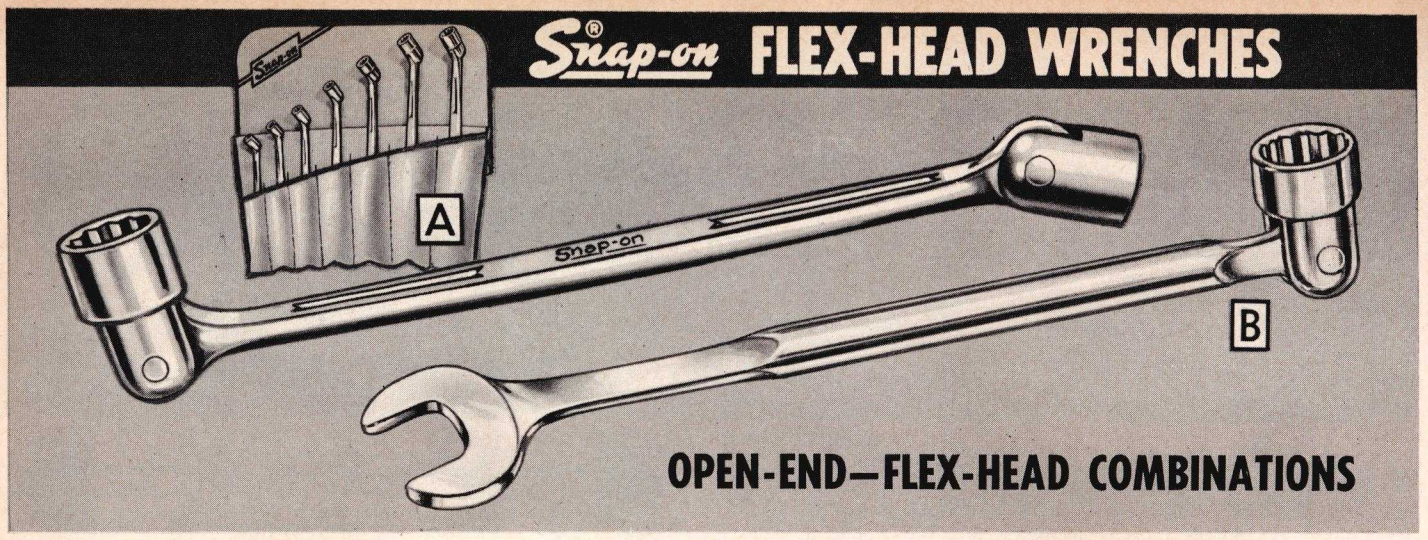


Rivet Specifications

Diam.	Working Thickness	Made of
Buttonhead Rivets		
1/8"	1/8"	Steel
1/8"	1/4"	Steel
3/16"	1/8"	Aluminum with aluminum mandrel
3/16"	1/8"	Aluminum with steel mandrel
120 Degree Countersunk Rivets		
1/8"	1/8"	Steel

▲ Federal Specs: "PWR" Series Pipe Wrenches are covered by GGG-W-651c, "PWN" Series Internal Pipe Wrenches by GGG-W-643A. ▲

Snap-on FLEX-HEAD WRENCHES



OPEN-END—FLEX-HEAD COMBINATIONS

Ⓐ FLEX-HEAD WRENCHES
"FLANK-DRIVE" HEX OPENINGS

Extremely handy wrenches for universal flange bolts, pan screws that are under cross members, and a hundred and one similar jobs. With the handle in a vertical position you can spin the nut on and then flex over to a horizontal position for final tightening. FH-1214BS is single hex and the other sizes are double hex. Full polished chrome finish.

Wrench Size	Stock No.	Head Diameters	Overall Length
3/8" & 7/16"	FH-1214BS	9/16" & 5/8"	6 7/32"
7/16" & 1/2"	FH-1416B	5/8" & 23/32"	6 7/8"
1/2" & 9/16"	FH-1618B	45/64" & 25/32"	7 19/32"
9/16" & 5/8"	FH-1820B	25/32" & 7/8"	8 9/16"
5/8" & 3/4"	FH-2024B	7/8" & 1"	9 11/16"
11/16" & 13/16"	FH-2226B	1" & 1 1/8"	10 9/16"
3/4" & 7/8"	FH-2428B	1 3/64" & 1 3/16"	10 5/8"

FLEX-HEAD WRENCH SET

FH-607B-K Set. Consists of the 7 Flex-Head wrenches FH-1214BS through FH-2428B listed above, in C-75B vinyl-fabric bag.

FH-607B Set. Above set but without the C-75B kit bag.

Ⓑ Snap-on FLEX-COMBINATION WRENCHES

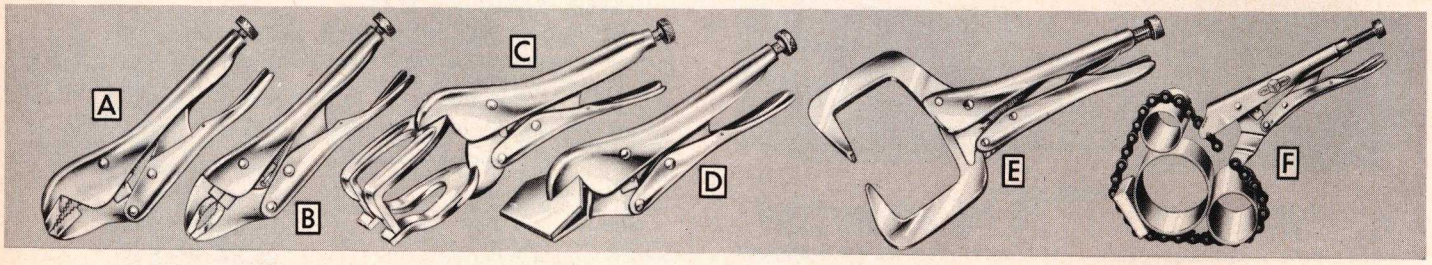
They combine in one tool all the best features of the Standard Open End Wrenches and the Socket and Boxocket Wrenches. The open end of the wrench is of the same design and production as our famous SNAP-ON open end wrenches. They have thin heads with precision broached openings and slender jaws that need a minimum of working space, yet are strong and durable.

The Boxocket is the safest, strongest type of wrench made. The ring type design applies the twisting leverage equally to all corners of the nut. The double hex opening cannot spread and affords a new grip with only a 30° handle swing allowing their use in extremely tight places. Openings are machined to strict tolerances to fit nuts and bolts without slipping. These fine wrenches have long handles to provide direct line leverage to give plenty of power. The handles are slim and provide a firm, comfortable grip.

These tools are hammer forged of high grade alloy steel and have a bright polished chrome finish. The complete set will give you eight of the most needed wrench sizes in two different types. Mechanics in all types of repair shops, automotive and industrial, welcome these fine tools. They handle almost any type of job in their size range quickly and easily.

Wrench Size	Stock No.	Head Diameter		Thickness Open End	Overall Length
		Box End	Open End		
7/16"	OH-14	5/8"	29/32"	15/64"	7 15/32"
1/2"	OH-16	23/32"	1 1/16"	1/4"	9 1/8"
9/16"	OH-18	25/32"	1 3/16"	17/64"	10 21/32"
5/8"	OH-20	29/32"	1 5/16"	9/32"	12 15/32"
11/16"	OH-22	31/32"	1 7/16"	19/64"	14 1/2"
3/4"	OH-24	1 3/64"	1 9/16"	5/16"	16 1/32"
13/16"	OH-26	1 1/8"	1 11/16"	3/8"	16 5/16"
7/8"	OH-28	1 3/16"	1 13/16"	3/8"	17 1/8"

OH-608 Set. Consists of the 8 Flex-Combination wrenches OH-14 through OH-28 above.



POWERFUL VISE-GRIP WRENCHES — CUTTERS — BENDERS — CHAIN WRENCH

The Vise-Grip Wrenches have an "easy-release" handle mounted inside the handle. When the wrench is locked this lever contacts the locking lever. When the wrench is to be removed, a slight pressure on the release allows the jaws to spring to open position. Saves time, works easily in tight places.

Ⓐ **Standard Vise-Grip Wrenches.** Indispensable for all types of work. Double action locks jaws on work, grips all shapes, will not slip. Works in close quarters, at any angle. Substitutes for vise, clamp, pipe wrench, etc.

▲ **VP-7R 7" Vise-Grip Wrench.**

▲ **VP-10R 10" Vise-Grip Wrench.**

Ⓑ **Vise-Grip with Wire Cutter.** Actually 8 tools in one — adjustable end wrench, thin nose plier, pipe wrench, portable toggle press, locking wrench, clamp, vise and bolt cutter. Provides a powerful grip on any object.

VP-5 WRB Vise-Grip. Jaw capacity 1¼".

▲ **VP-7WR 7" Vise-Grip.** Jaw capacity 1⅜".

▲ **VP-10WR 10" Vise-Grip.** Jaw capacity 1⅝".

▲ Ⓒ **VP-9R Vise-Grip Welding Clamp.** Parts are aligned almost instantly and held in position leaving both hands free. Special U-shaped jaws provide perfect visibility and working room. End screw provides quick jaw opening adjustment up to 1⅝". Ideal for fender work, soldering, riveting, etc.

▲ Ⓓ **VP-8R Vise-Grip Bending Tool.** Wide jaws make this Vise-Grip ideal for sheet metal work. Provide a solid grip for twisting, bending, shaping or pulling. Eliminates tiresome "hand-gripping." Clamps onto the work leaving hand free. Useful for upholstery work, material can be stretched without danger of unravelling. 8" long, jaws 3⅛" wide, throat depth 1¾".

Ⓔ **VP-11R Vise-Grip "C" Clamp.** Much faster than ordinary "C" clamp. End screw provides quick jaw opening adjustment up to 3½" diameter. Align pieces to be clamped, place Vise-Grip in position — a squeeze of the hand locks it into position — hold awkward pieces easily.

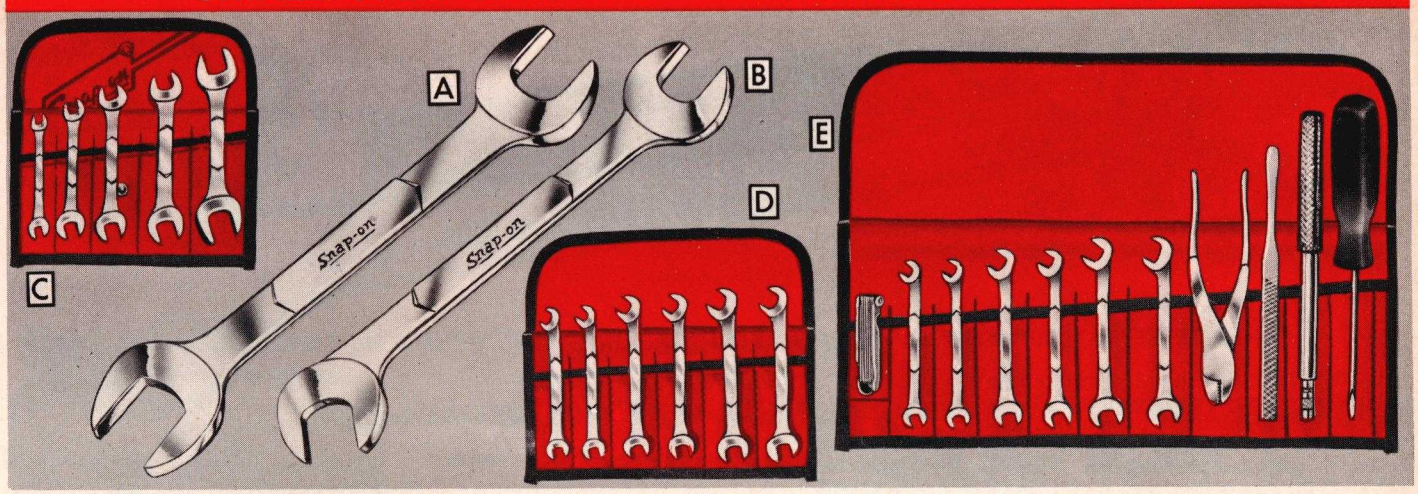
Ⓕ **VP-20R Chain Wrench.** A highly versatile tool that holds and locks around any shape and size that a chain can be wrapped around. It combines the features of chain clamp and a pipe wrench and provides tremendous gripping power, yet has easy, quick release. Excellent for tail-pipe and oil filter removal, holding parts for welding or drilling. Chain will take any size work up to 19" perimeter. Extension chain also available as well as replacement chain, however, these two chains are not interchangeable.

VP-20REP Replacement Chain for VP-20R.

VP-20EX Extension Chain for VP-20R.

▲ Federal Specs: GGG-P-471C applies to the Vise-Grip wrenches indicated by this symbol ▲.

SMALL OPEN ENDS AND TIME SAVING TUNE-UP KIT



▲ Ⓐ SHORT OPEN ENDS

For nuts from 3/16" to 9/16". Excellent for working in cramped places. Forged from special alloy steel to withstand tough usage. Heads are precision machined. Two sizes on each wrench. Chrome plated finish.

Stock No.	Wrench Size	Head Thickness	Length
J-1214	3/16" & 7/32"	3/32"	2¾"
J-1618	¼" & 9/32"	7/64"	3⅛"
J-2022	5/16" & 11/32"	⅛"	3½"
J-2428	⅜" & 7/16"	9/64"	3⅞"
J-3236	½" & 9/16"	5/32"	4¼"

Ⓒ **J-805A-K Short Open End Set.** Contains one each of the above wrenches in C-52D vinyl-fabric kit bag.

J-805A Set, tools only.

▲ Ⓑ IGNITION OPEN ENDS

Make easy work of those ignition, carburetor, radio, and electrical jobs which take tiny, short handled tools. Six largest tools are made in pairs with two different sizes on each wrench . . . each size duplicated at a different angle.

Stock No.	Wrench Sizes 15° End	Wrench Sizes 60° End	Head Thickness	Overall Length
DS-88	⅛"	⅛"	3/32"	2¾"
DS-1010	5/32"	5/32"	3/32"	2⅞"
DS-1212	3/16"	3/16"	3/32"	2⅞"
DS-1516	15/64"	¼"	7/64"	3¼"
DS-1615	¼"	15/64"	7/64"	3¼"
DS-1820	9/32"	5/16"	⅛"	3½"
DS-2018	5/16"	9/32"	⅛"	3½"
DS-2224	11/32"	⅜"	9/64"	3¾"
DS-2422	⅜"	11/32"	9/64"	3¾"

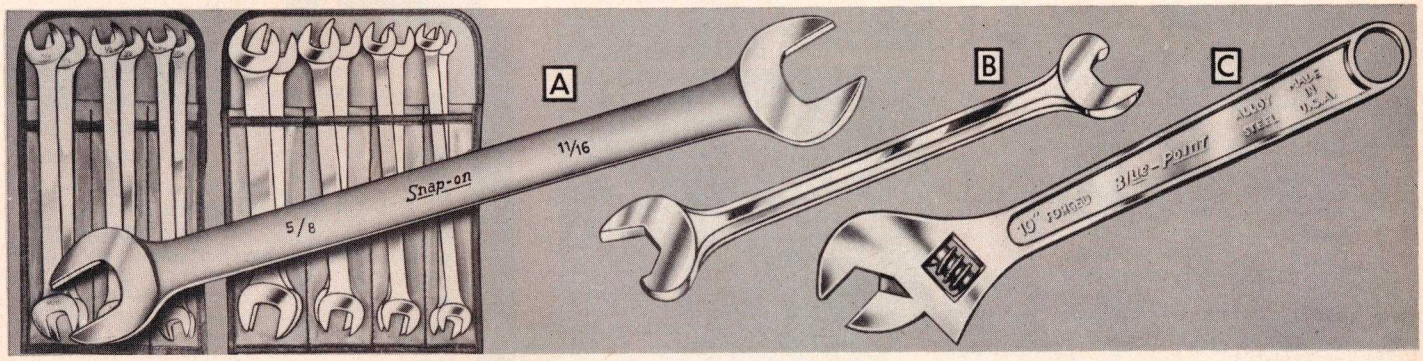
Ⓓ **DS-806-K Ignition Wrench Set.** Consists of six wrenches, DS-1516 through DS-2422, in C-65D kit bag.

DS-806 Set. Above set tools only.

Ⓔ TUNE-UP KIT

2011-IT-K Tune-Up Kit. Here is the necessary set of Ignition Tools for fast, easy tune-up work. Small enough to fit in your pocket, yet complete with the tools you need. Ignition wrenches included are in pairs with two different sizes on each wrench, sizes duplicated for use in limited space. C-111 vinyl-fabric kit bag adds convenience.

Stock No.	DESCRIPTION
5	4½" Midget Pliers
HB-5	Ignition Point File
SSD-234	Small Screw Driver
SS-5	Screw Starter
FB-316	Ign. & Spark Plug Feeler Ga.
DS-806	Set of 6 Ign. Open Ends listed at left.



Ⓐ TAPPET WRENCHES — LONG, SLIM HANDLES

- **Disc Thin, pear Shaped Jaws Need Minimum Work Space.**
- **Long, Slim Handles Keep Your Hand Clear of Hot Motor.**
- **Both Heads Set At An Angle For Better Tool Adaptability.**

Thin, pear-shaped jaws easily get into those close quarters around the tappet adjusting screws, tappets and lock nuts . . . and the long slim handles keep your hands clear of hot motors — prevent unpleasant burns. The wrenches are light and well balanced . . . features you will appreciate on the job when usually two wrenches are worked like scissors in one hand and a third wrench is used in the other hand. SNAP-ON gives you the highest qualities of strength and durability through fine alloy steels and controlled heat treatment. Chrome plated.

Stock Number	Wrench Sizes	Head Thickness	Overall Length
▲ LTA-1416	7/16" & ½"	11/64"	9½"
▲ LTA-1618	½" & 9/16"	3/16"	9½"
▲ LTA-2022	⅝" & 11/16"	3/16"	9½"
▲ LTA-2428	¾" & ⅞"	13/64"	9½"

LTA-806-K Set. Six wrenches, two each of LTA-1416, LTA-1618, LTA-2022, in C-36D kit bag.

LTA-806 Set. Tools only.

LTA-808-K Set. Eight wrenches, two of each size, in kit bag C-48D.

LTA-808 Set. Tools only.

Ⓑ RATCHETING OPEN ENDS

These wrenches give you ratcheting speed with the convenience of open-end wrenches . . . permit you to run the nut all the way down without removing the wrench from the nut. They are practical, time saving tools that belong in every tool kit. Chrome plated.

Wrench Size	Stock No.	Head Thickness	Overall Length
⅜" & 7/16"	RS-1214	5/32"	5"
7/16" & ½"	RS-1416	3/16"	5½"
½" & 9/16"	RS-1618	7/32"	6"
9/16" & ⅝"	RS-1820	¼"	6½"

RS-804A Ratcheting Open End Wrench Set. Consists of one each of above four tools.

Ⓒ ADJUSTABLE WRENCHES

Extra strong, extra-thin jaws to get into tight places. High quality alloy steel for strength. For working convenience and durability you cannot buy a better adjustable wrench.

No.	Size	Cap.	Head Thick.
▲D-74	4"	½"	5/16"
▲D-76	6"	¾"	13/32"
▲D-78	8"	15/16"	15/32"
▲D-710	10"	1⅛"	9/16"
▲D-712	12"	1⅝"	¾"
▲D-715	15"	1 11/16"	31/32"
▲D-718	18"	2 1/16"	1 3/16"
▲D-724	24"	2½"	1 7/16"

D-903 Set. Three wrenches, Nos. D-76, D-78 and D-710.

D-906 Set. Contains six wrenches, Nos. D-74, D-76, D-78, D-710, D-712 and D-715.

Federal Specs: GGG-W-636D applies to Tappet Wrenches and open ends. GGG-W-631A applies to Adjustable Wrenches.

Snap-on ANGLE-HEAD OPEN END WRENCHES

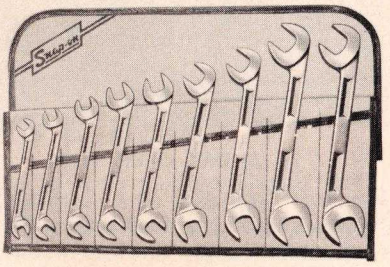


HEADS SET AT 30° AND 60° ALLOW YOU TO TURN NUTS EASIER IN TIGHT CORNERS

The 30° and 60° head arrangement gives you four usable wrench positions and makes it possible for you to turn nuts which are located in narrow swing areas where standard open ends or other type wrenches just won't work. Add these tools to your kit and you eliminate all your turning troubles on those hard-to-reach nuts in the 3/8" to 1 1/2" size range.

Other features include well rounded handle edges that are comfortable in the hand . . . pear-shaped, thin jaws which contribute to close quarter operation . . . draw-broached openings which give you accurate, close fitting wrenches. Polished, chrome plated finish with bright finish recesses in the handles. Forged from fine alloy steel heat treated under controlled conditions to assure toughness and hardness.

Stock No.	Wrench Size	Head Thickness	Overall Length
▲VS-5212	3/8"	3/16"	5 1/16"
▲VS-5214	7/16"	7/32"	5 1/2"
▲VS-5216	1/2"	7/32"	6 1/32"
▲VS-5218	9/16"	1/4"	6 1/2"
▲VS-5220	5/8"	1/4"	7"
▲VS-5222	11/16"	9/32"	7 1/2"
▲VS-5224	3/4"	5/16"	8"
VS-5226	13/16"	11/32"	8 1/2"
VS-5228	7/8"	3/8"	9 1/4"
VS-5230	15/16"	3/8"	9 1/4"
VS-5232	1"	13/32"	9 7/8"
VS-5234	1 1/16"	13/32"	10 3/8"
VS-5236	1 1/8"	7/16"	11 11/32"
VS-5240	1 1/4"	15/32"	12 1/4"
VS-5242	1 5/16"	15/32"	12 23/32"
VS-5244	1 3/8"	1/2"	13 1/16"
VS-5248	1 1/2"	17/32"	13 31/32"



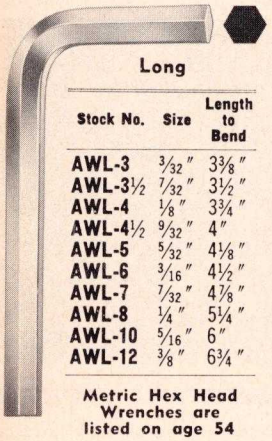
HANDY OPEN-END WRENCH SETS

VS-809-K Set. Consists of nine wrenches, VS-5212 through VS-5228 listed at left complete in C-92D vinyl-fabric kit bag.

VS-809 Set. Same as above without C-92D kit bag.

HEX HEAD AND MULTI-SPLINE WRENCHES IN HANDY SETS

▲ HEX HEAD WRENCHES



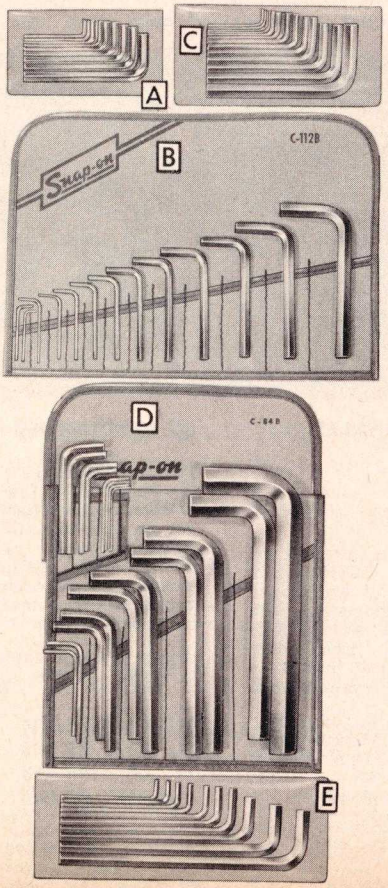
Long

Stock No.	Size	Length to Bend
AWL-3	3/32"	3 3/8"
AWL-3 1/2	7/32"	3 1/2"
AWL-4	1/8"	3 3/4"
AWL-4 1/2	9/32"	4"
AWL-5	5/32"	4 1/8"
AWL-6	3/16"	4 1/2"
AWL-7	7/32"	4 7/8"
AWL-8	1/4"	5 1/4"
AWL-10	5/16"	6"
AWL-12	3/8"	6 3/4"

Metric Hex Head Wrenches are listed on age 54

Standard

Stock No.	Size
AW-.028	.028"
AW-.035	.035"
AW-1 1/2	3/64"
AW-2	1/16"
AW-2 1/2	5/64"
AW-3	3/32"
AW-3 1/2	7/64"
AW-4	1/8"
AW-4 1/2	9/64"
AW-5	5/32"
AW-6	3/16"
AW-7	7/32"
AW-8	1/4"
AW-10	5/16"
AW-12	3/8"
AW-14A	7/16"
AW-16	1/2"
AW-18	9/16"
AW-20	5/8"
AW-24	3/4"



Ⓐ **AW-1013AK Set.** 13 Standard hex head wrenches, AW-.028 through AW-8 in C-10C kit bag with grip fastener.

Ⓑ **AW-1013K Set.** 13 Standard hex head wrenches, AW-1 1/2 through AW-12 in C-112B red vinyl-fabric bag.

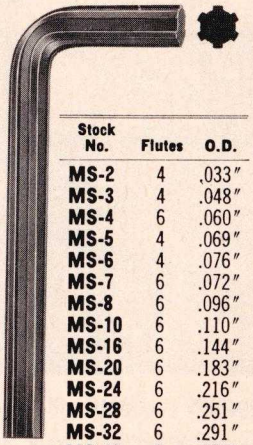
Ⓒ **AW-1015KC Set.** 15 Standard hex head wrenches, AW-.028 through AW-12 in C-20 transparent plastic kit bag with grip fastener.

Ⓓ **AW-1020K Set.** 20 Standard hex head wrenches, AW-.028 through AW-24 in C-84B red vinyl-fabric kit.

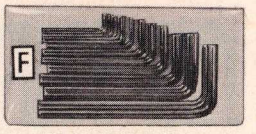
AW-1020 Set. Above set, tools only.

Ⓔ **AW-1010K Set.** 10 Long hex head wrenches, AWL-3 through AWL-12 in C-15B kit bag.

▲ MULTI-SPLINE



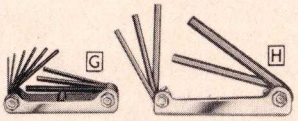
Stock No.	Flutes	O.D.
MS-2	4	.033"
MS-3	4	.048"
MS-4	6	.060"
MS-5	4	.069"
MS-6	4	.076"
MS-7	6	.072"
MS-8	6	.096"
MS-10	6	.110"
MS-16	6	.144"
MS-20	6	.183"
MS-24	6	.216"
MS-28	6	.251"
MS-32	6	.291"
MS-40	6	.372"
MS-48	6	.454"



Ⓕ **MS-1012KA Set.** 12 Multi-Spline wrenches. All sizes listed except MS-2, MS-3 and MS-7, in C-16 red vinyl kit bag with transparent front.

MS-1012 Set. Same as above but without kit bag.

HEX KEY SETS



Ⓖ **AW-9K Hex Key Set.** 9 hex head wrench sizes .050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", and 3/16" fitted into a knife-type handle.

Ⓗ **AW-5K Hex Key Set.** An ideal companion for the AW-9K set above in that it contains wrenches of larger sizes: 3/16", 7/32", 1/4", 5/16" and 3/8" — five in all that may be removed from chrome finished holder if desired. Tool closed is 5 1/2" long, blades have black finish. Folds up like a handy jack knife.

▲ Federal Specs: GGG-W-00652A applies to Hex Head and Multi-Spline wrenches above. GGG-W-636d applies to the Angle-Head Wrenches above indicated by the symbol ▲

Snap-on OPEN END WRENCHES

EACH WRENCH HAS TWO SIZES



WRENCH OPENINGS SET AT A 15° ANGLE HELP YOU WORK FASTER AND EASIER IN CLOSE QUARTERS

UNEQUALLED FOR STRENGTH, TOUGHNESS AND FATIGUE RESISTANCE

SPECIFICATIONS of the Individual Wrenches that you can buy separately or in Sets.

Wrench Sizes	▲Stock No.	Head Diameters	Head Thickness	Overall Length
1/4" & 5/16"	VS-810	17/32" & 21/32"	5/32"	4"
5/16" & 3/8"	VS-1012	21/32" & 25/32"	3/16"	4 9/16"
3/8" & 7/16"	VS-1214	25/32" & 29/32"	13/64"	5 1/8"
7/16" & 1/2"	VS-1416	29/32" & 1 1/32"	7/32"	5 11/16"
1/2" & 9/16"	VS-1618	1 1/16" & 1 3/16"	15/64"	6 1/4"
9/16" & 5/8"	VS-1820	1 3/16" & 1 5/16"	1/4"	6 13/16"
19/32" & 11/16"	VS-1922	1 7/32" & 1 7/16"	9/32"	7 1/4"
5/8" & 11/16"	VS-2022	1 5/16" & 1 7/16"	1/4"	7 3/8"
5/8" & 3/4"	VS-2024	1 5/16" & 1 9/16"	9/32"	8"
11/16" & 3/4"	VS-2224	1 7/16" & 1 9/16"	9/32"	8 3/8"
11/16" & 13/16"	VS-2226	1 7/16" & 1 11/16"	9/32"	8 5/8"
3/4" & 13/16"	VS-2426	1 9/16" & 1 11/16"	5/16"	9 1/4"
3/4" & 7/8"	VS-2428	1 9/16" & 1 13/16"	11/32"	10 1/4"
25/32" & 13/16"	VS-2526	1 19/32" & 1 11/16"	5/16"	9 11/16"
13/16" & 7/8"	VS-2628	1 11/16" & 1 13/16"	5/16"	10 5/8"
7/8" & 15/16"	VS-2830	1 13/16" & 1 31/32"	11/32"	11 1/2"
15/16" & 1"	VS-3032	1 31/32" & 2 1/32"	3/8"	12 1/2"
1" & 1 1/8"	VS-3236	2 1/16" & 2 5/16"	13/32"	13 1/4"
1 1/16" & 1 1/8"	VS-3436	2 3/16" & 2 5/16"	13/32"	13 5/8"
1 1/16" & 1 1/4"	VS-3440	2 3/16" & 2 5/8"	7/16"	14 5/16"
1 3/16" & 1 5/16"	VS-3842	2 1/2" & 2 3/4"	1/2"	15 1/2"
1 1/4" & 1 3/8"	VS-4044	2 5/8" & 2 7/8"	1/2"	16"
1 3/8" & 1 1/2"	VS-4448	2 7/8" & 3 1/16"	9/16"	17 5/8"
1 7/16" & 1 5/8"	VS-4652	3" & 3 3/8"	9/16"	19"

CONTENTS of the five SNAP-ON Open End Wrench Sets — Choose the one that meets your needs.

Wrench Stock Nos.	OPEN END WRENCH SET NUMBERS				
	Ⓐ VSO-806	Ⓑ VSO-808	Ⓒ VSO-811	Ⓓ VSO-815	Ⓔ VSO-820
VS-810	X	X	X	X	X
VS-1012	.....	.....	X	X	X
VS-1214	X	X	X	X	X
VS-1416	.....	.....	X	X	X
VS-1618	X	X	X	X	X
VS-1820	.....	.....	X	X	X
VS-1922	.....	.....	.....	X	X
VS-2022	X	X	.....	.....	.....
VS-2024	.....	.....	X	X	X
VS-2224	.....	.....	.....	.....	.....
VS-2226	.....	.....	X	.....	X
VS-2426	X	X	.....	.....	.....
VS-2428	.....	.....	X	X	X
VS-2526	.....	.....	.....	X	X
VS-2628	.....	.....	.....	.....	.....
VS-2830	X	X	X	X	X
VS-3032	.....	.....	X	X	X
VS-3236	.....	X	.....	X	X
VS-3436	.....	.....	.....	X	X
VS-3440	.....	X	.....	X	X
VS-3842	.....	.....	.....	.....	X
VS-4044	.....	.....	.....	.....	X
VS-4448	.....	.....	.....	.....	X
VS-4652	.....	.....	.....	.....	X
Kit Bag	C-68D	C-87	C-116B	C-150B	C-200

These Superior Qualities Make SNAP-ON Open End Wrenches Your Very Best Buy

- THIN HEADS . . . . • NARROW JAWS . . . . • GREAT STRENGTH . . . .
- LIGHT WEIGHT . . . . • BALANCED DESIGN . . . . • COMFORTABLE GRIP
- BROACHED OPENINGS . . . . • FINE ALLOY, HIGH CARBON STEEL

Without question, these SNAP-ON Open End Wrenches are designed and made to give you very fine tools of this type. Check these superb features that make them so popular:

Great Strength. Forged from high quality alloy high carbon steel with selectivity controlled heat treating and tempering.

Thin Heads — Narrow Jaws. Pear-shaped design reaches into close quarters, yet they have plenty of "beef" to loosen or tighten the toughest nut or bolt.

COMPLETE SETS

Ⓐ **VSO-806A-K Set.** Complete in C-68D Kit Bag.

VSO-806A Set, tools only.

Ⓑ **VSO-808-K Set.** Complete in C-87 Kit Bag.

VSO-808 Set, tools only.

Ⓒ **VSO-811-K Set.** Complete in C-116B Kit Bag.

VSO-811 Set, tools only.

Ⓓ **VSO-815-K Set.** Complete in C-150B Kit Bag.

VSO-815 Set, tools only.

Ⓔ **VSO-820-K Set.** Complete in C-200 Kit Bag.

VSO-820 Set, tools only.

Precision Broaching. Smooth wrench openings have close, accurate fit on nut or bolt to prevent slipping — assure positive "pull." Openings have rounded bottoms to add strength to the jaw base.

Powerful Handles. Are just the right length for best leverage. They are properly balanced and have the "feel" you want. Recessed design gives sure finger grip. Rounded edges are easy on your hand.

Light Weight. With all their power and toughness, these SNAP-ON Open Ends are surprisingly light in weight. This means easier work and less fatigue.

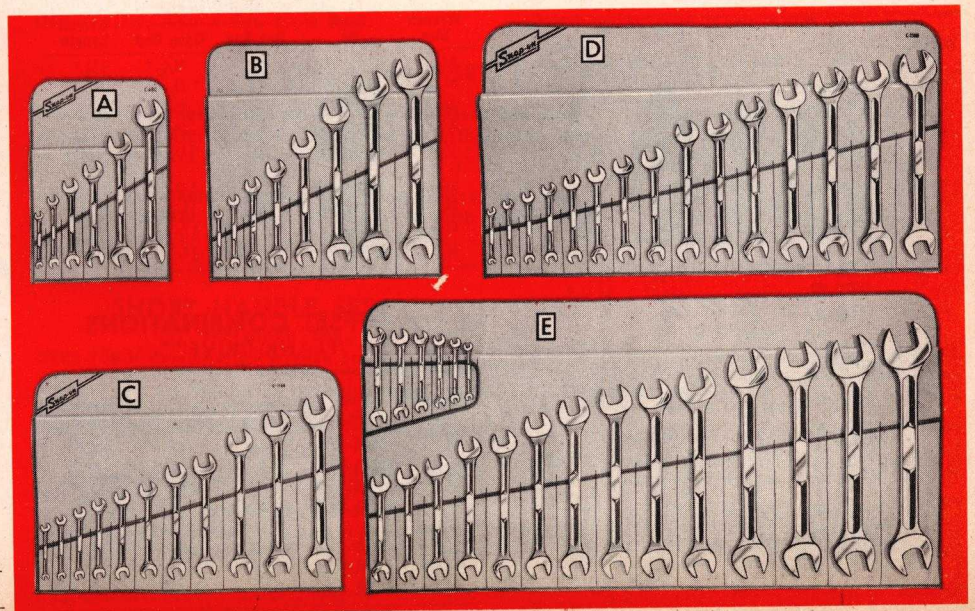
Chrome Plated and Polished. To give an easily cleaned and beautiful rust-proof finish for years to come.

Long Life. High carbon alloy steel, the correct design in head and handle, and precision machining and heat treating results in long, trouble-free, dependable service.

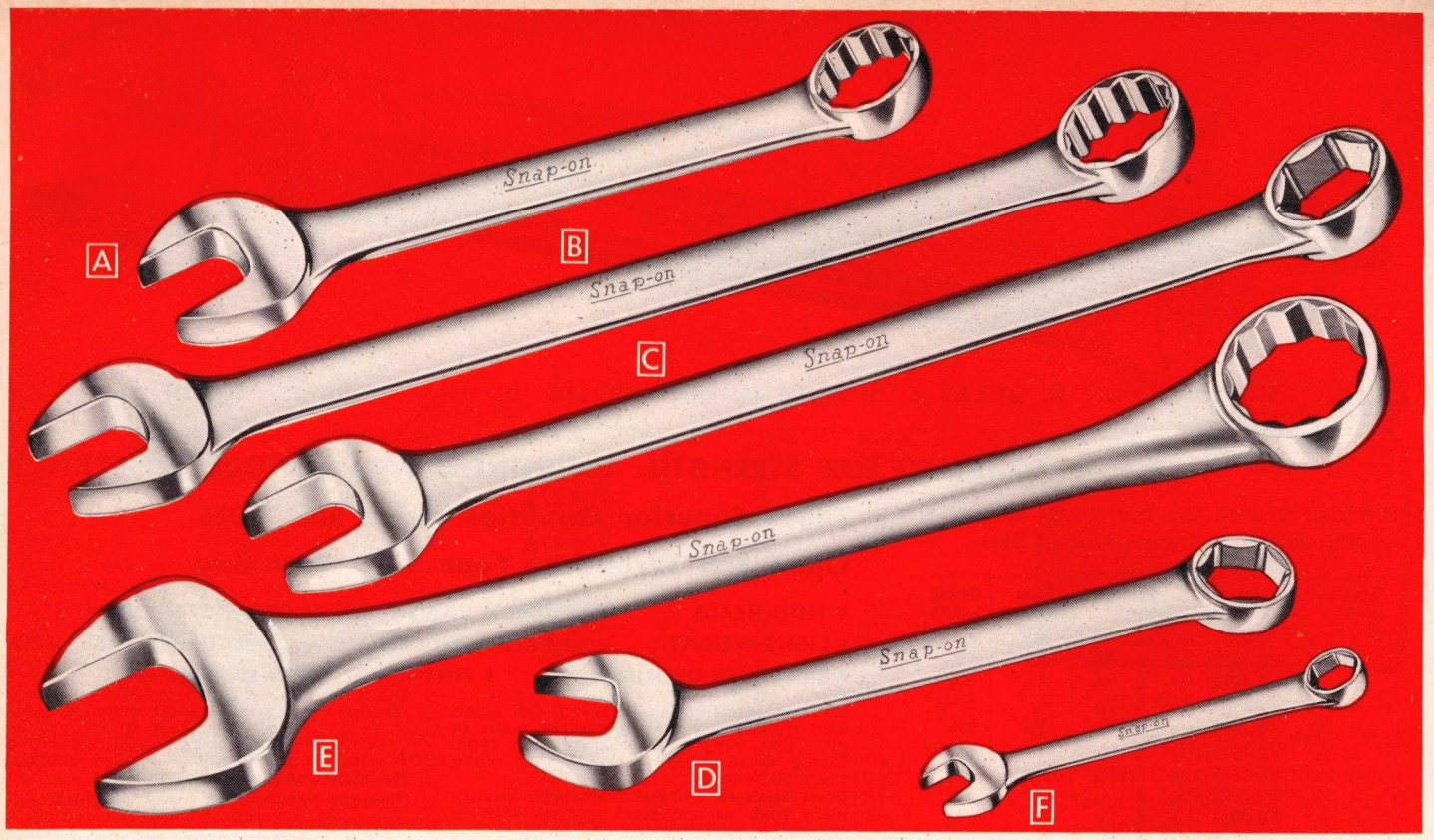
The results of these superb features pay big tool dividends for you. You do your work faster since these wrenches are made the way the experienced mechanic wants them made. You do better work because they are precision broached.

They fit the nut just right without binding or looseness and help prevent marring the nut or fitting. Proper fit helps avoid slippage and contributes to safe working conditions.

Rid your tool kit of worn out, time taking and unsafe tools and put one of these fine sets of SNAP-ON Open Ends to work for you.



▲ Federal Specs: GGG-W-636D applies to all items in this page.



▲ Ⓐ DOUBLE HEX SHORT HANDLE SERIES "FLANK DRIVE"

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
1/4"	OEX-80	25/64"	17/32"	4 1/2"
9/32"	OEX-90	27/64"	19/32"	4 3/4"
5/16"	OEX-100	15/32"	11/16"	4 7/8"
11/32"	OEX-110	17/32"	23/32"	5 1/8"
3/8"	OEX-120	17/32"	13/16"	5 7/32"
7/16"	OEX-140	5/8"	15/16"	5 7/16"
1/2"	OEX-160	11/16"	1 1/16"	5 3/4"
9/16"	OEX-180	13/16"	1 3/16"	6"
5/8"	OEX-200	7/8"	1 9/32"	6 5/16"
11/16"	OEX-220	31/32"	1 13/32"	6 19/32"
3/4"	OEX-240	1 1/16"	1 1/2"	6 7/8"

▲ Ⓑ DOUBLE HEX LONG HANDLE SERIES "FLANK DRIVE"

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
3/8"	OEX-12	19/32"	25/32"	6 9/16"
7/16"	OEX-14	21/32"	29/32"	7 3/32"
1/2"	OEX-16	3/4"	1 1/16"	7 21/32"
9/16"	OEX-18	27/32"	1 3/16"	8 5/16"
5/8"	OEX-20	15/16"	1 5/16"	8 13/16"
11/16"	OEX-22	1"	1 7/16"	9 1/4"
3/4"	OEX-24	1 3/32"	1 9/16"	9 3/4"
13/16"	OEX-26	1 3/16"	1 11/16"	11"
7/8"	OEX-28	1 9/32"	1 13/16"	11 7/8"
15/16"	OEX-30	1 11/32"	1 15/16"	13"
1"	OEX-32	1 7/16"	2 1/16"	14"
1 1/16"	OEX-34	1 9/16"	2 3/16"	15"
1 1/8"	OEX-36	1 21/32"	2 5/16"	15 7/8"
1 1/4"	OEX-40	1 27/32"	2 9/16"	17"
1 5/16"	OEX-42	1 29/32"	2 11/16"	18"
1 3/8"	*OEX-44	2"	2 13/16"	19"
1 7/16"	*OEX-46	2 1/16"	2 15/16"	20 1/16"
1 1/2"	*OEX-48	2 5/32"	3 1/16"	21 1/16"
1 5/8"	*OEX-52	2 5/16"	3 5/16"	22 1/8"

*Regular double-hex — not "Flank-Drive."

When you get into tight spots . . .

TWO HEADS ARE BETTER THAN ONE

. . . and the best heads are SNAP-ON. You just can't beat the speed and convenience of SNAP-ON Combination Wrenches. With 15-degree angle open-ends and 15-degree offset box-ends, you get a wide range of positions with two types of wrench heads on each tool. No need to grope around and switch wrenches right in the middle of a job.

NOW: "*Flank Drive*" Boxocket openings. All sizes up to 1 5/16" single or double hex have the new SNAP-ON "*Flank Drive*" design. See the full story of this important wrench development on page 5.

Chamfered Boxocket openings are clean broached and carefully centered, open ends have rounded bottoms, features that give added strength. All are chrome plated and polished.

SINGLE HEX Ⓒ LONG HANDLE SERIES "FLANK DRIVE"

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
5/16"	OSH-10	15/32"	21/32"	5 7/8"
11/32"	OSH-11	17/32"	23/32"	6 1/4"
3/8"	OSH-12	19/32"	25/32"	6 9/16"
7/16"	OSH-14	21/32"	29/32"	7 3/32"
1/2"	OSH-16	3/4"	1 1/16"	7 21/32"
9/16"	OSH-18	27/32"	1 3/16"	8 5/16"
5/8"	OSH-20	15/16"	1 5/16"	8 13/16"
11/16"	OSH-22	1"	1 7/16"	9 1/4"
3/4"	OSH-24	1 3/32"	1 9/16"	9 3/4"

Ⓓ OFFSET COMBINATIONS "FLANK-DRIVE"

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
1/4"	OXA-80	25/64"	17/32"	4 3/8"
5/16"	OXA-100	15/32"	11/16"	5"
3/8"	OXA-120	17/32"	13/16"	5 7/32"
7/16"	OXA-140	5/8"	15/16"	5 7/16"
1/2"	OXA-160	11/16"	1 1/16"	5 3/4"
9/16"	OXA-180	13/16"	1 3/16"	6"
5/8"	OXA-200	7/8"	1 9/32"	6 5/16"

Ⓔ DOUBLE HEX LARGE SIZE COMBINATIONS

Std. Broaching, Not "Flank-Drive"

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
1 11/16"	OEX-54	2 1/2"	3 5/8"	24 3/8"
1 3/4"	OEX-56	2 9/16"	3 5/8"	25 3/4"
1 13/16"	OEX-58	2 11/16"	3 5/8"	27 1/4"
1 7/8"	OEX-60	2 13/16"	4"	28 1/2"
2"	OEX-64	2 15/16"	4"	29 5/8"

▲ Ⓕ SINGLE HEX MIDGET SERIES "FLANK-DRIVE"

Wrench Size	Stock No.	Head Diameter		Overall Length
		Box End	Open End	
1/8"	OXI-4	7/32"	9/32"	2 63/64"
5/32"	OXI-5	17/64"	5/16"	3"
3/16"	OXI-6	19/64"	3/8"	3 1/32"
7/32"	OXI-7	11/32"	7/16"	3 3/64"
1/4"	OXI-8	3/8"	17/32"	3 1/16"
9/32"	OXI-9	27/64"	19/32"	3 9/32"
5/16"	OXI-10	29/64"	21/32"	3 15/32"
11/32"	OXI-11	1/2"	23/32"	3 11/16"
3/8"	OXI-12	17/32"	3/4"	3 7/8"

▲ Federal Specs: GGG-W-636D applies to all units on this page indicated by symbol ▲.



Check

THESE **Snap-on** **COMBINATION WRENCH**

Features:

- **Thin Heads get in close places**
- **Narrow Jaws work between obstructions**
- **Double Hex "Boxockets" work with 30° swing**
- **New Flank Drive "Boxocket" heads put more power in your hands, see page 5**
- **"Boxocket" 15° offset from handle to clear obstructions**
- **Open End at 15° angle from handle**
- **Tough and strong for long wear**
- **Light Weight and Balanced Design makes them "feel" good**
- **Comfortable Grip Handles — no sharp edges**
- **Fine Alloy High Carbon Steel**
- **Expertly Heat Treated and Hardened**

OWN A COMPLETE SET OF Snap-on COMBINATION WRENCHES

So many jobs require more than one wrench at a time that you will find it convenient to own a complete set as illustrated and listed here. These sets have been made up of the most popular sizes used, a set to meet every job and every pocket book. The tough, durable red vinyl plastic cases or kit bags help keep tools clean and protect them. They show too, at a glance if any one is missing and in that way save you from losing tools.

LONG HANDLE COMBINATION WRENCH SETS

Ⓐ 9-Wrench Set

OEX-709-K Combination Wrench Set. Contains OEX-12, 14, 16, 18, 20, 22, 24, 26, and 28. A selection of 9 popular sizes 3/8" to 7/8". In C-93D kit bag.

OEX-709 Set. Above Set, tools only.

Ⓑ 19-Wrench Set

OEX-719-K Combination Wrench Set. Contains one each of the 19 long handle series wrenches (listed on opposite page) OEX-12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 40, 42, 44, 46, 48 and 52 in C-190B kit bag.

OEX-719 Set. Above Set, tools only.

Ⓒ 11-Wrench Set

OEX-711-K Combination Wrench Set. Contains one each of the following wrenches: OEX-12, 14, 16, 18, 20, 22, 24, 26, 28, 30 and 32 in C-114B kit bag. Sizes 3/8" to 1".

OEX-711 Set. Above Set, tools only.

Ⓓ 14-Wrench Set

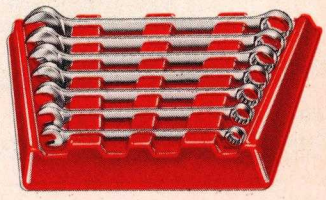
OEX-714-K Combination Wrench Set. Contains one each of the following long handle wrenches: OEX-12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36 and 40 in C-141B kit bag. Sizes 3/8" to 1 1/4".

OEX-714 Set. Above Set, tools only.

LONG HANDLE SETS IN PLASTIC TRAY

OEX-707 Combination Wrench Set. (Double Hex Box End.) Contains OEX-12, 14, 16, 18, 20, 22 and 24, with plastic tray as illustrated.

OSH-707 Combination Wrench Set. (Single Hex Box End.) Contains OSH-12, 14, 16, 18, 20, 22 and 24, with plastic tray as illustrated.



SHORT HANDLE SETS

Ⓔ 9-Wrench Set

OEXS-709-K Combination Wrench Set. Contains one each of OEX-100, 110, 120, 140, 160, 180, 200, 220 and 240 (listed on opposite page), in C-94 red vinyl fabric kit bag.

OEXS-709 Set. Above Set, tools only.

OFFSET WRENCH SET

Ⓖ 6-Wrench Set

OXA-706-K Offset Combination Wrench Set. Contains one each of OXA-100, 120, 140, 160, 180 and 200 (listed opposite page), in C-60D pocket kit bag.

OXA-706 Set. Above Set, tools only.

MIDGET SETS

Ⓕ 5-Wrench Set

OXI-705-K Midget Combination Wrench Set. Contains one each of OXI-8, 9, 10, 11 and 12 in C-52D pocket kit bag.

OXI-705 Set. Above Set, tools only.

9-Wrench Set — Not Illustrated

OXI-709-K Midget Combination Wrench Set. Contains one each of OXI-4, 5, 6, 7, 8, 9, 10, 11 and 12, in C-90 kit bag.

OXI-709 Set. Above Set, tools only.

FOR METRIC AND BRITISH STANDARD WRENCHES AND TOOL SETS SEE PAGES 52-53-54-55.



Snap-on® CHISELS AND PUNCHES ARE TOUGH AND DURABLE

Look at these special Snap-on® features:

Special steels — Tough alloys are expertly forged, machined and heat-treated for uniform hardness. **Induction-drawn heads** — Hardness in striking heads is reduced to help prevent brittleness and add qualities that result in a slow-mushrooming, long-life striking surface. **Parabolic heads** — Heads on tools shown above are machined to a modified Parabolic curve in order to effect maximum striking force with minimum metal displacement. These very desirable qualities contribute greatly to a controlled "mushroom" effect minimizing the chance of chipping or splitting. 70° chisel edge cuts truer and easier, stays sharp longer. **Firm, comfortable grip** is another SNAP-ON extra. Octo-square shape gives you more control, greater safety.

FLAT CHISELS

Ⓐ Perfectly balanced. Have hand-ground cutting edges beveled at the best angle for long edge life and fast cutting on the average type of work. Can be re-edged with a file quickly when necessary.

Stock No.	Sq. Stock	Edge	Length
PPC-812	3/8"	13/32"	5 1/2"
PPC-816	7/16"	1/2"	6"
PPC-820	1/2"	5/8"	6 1/2"
PPC-824	5/8"	3/4"	7 1/4"
PPC-828	11/16"	7/8"	8"

Ⓑ CAPE CHISELS

Stock No.	Sq. Stock	Edge	Length
PPC-13	5/16"	1/4"	5 5/8"
PPC-14	3/8"	5/16"	6"

Ⓒ ROUND NOSE CAPE CHISEL

Stock No.	Sq. Stock	Edge	Length
PPC-12	3/8"	5/16"	6"

Ⓓ DIAMOND POINT CHISELS

Stock No.	Sq. Stock	Edge	Length
PPC-15	7/16"	7/32"	6"
PPC-19	3/8"	1/8"	5 3/4"

CENTER PUNCHES

Ⓔ Forged from tough steel, heat treated and tempered for hardness.

PPC-3 1/8" Point Taper, 5" Length.
PPC-4 3/16" Point Taper, 6" Length.

LONG TAPERED PUNCHES

Ⓗ These punches are invaluable for all kinds of lining up work . . . carefully drop forged and finished to give long, lasting service.

Stock No.	Sq. Stock	Point	Length
PPC-905	3/8"	3/16"	8"
PPC-908	7/16"	1/4"	8 1/2"
PPC-910	1/2"	5/16"	9"
PPC-912	9/16"	3/8"	9 1/2"

PIN PUNCHES

Ⓕ Use a Starter Punch to loosen the pin or bolt and finish removal with a Pin Punch. The shaft is not tapered.

Stock No.	Sq. Stock	Point	Length
PPC-103	9/32"	3/32"	4 1/4"
PPC-104	5/16"	1/8"	4 3/4"
PPC-105	3/8"	5/32"	5"
PPC-106	3/8"	3/16"	5 1/4"
PPC-108	7/16"	1/4"	5 3/4"
PPC-110	1/2"	5/16"	6 1/4"

STARTER PUNCHES

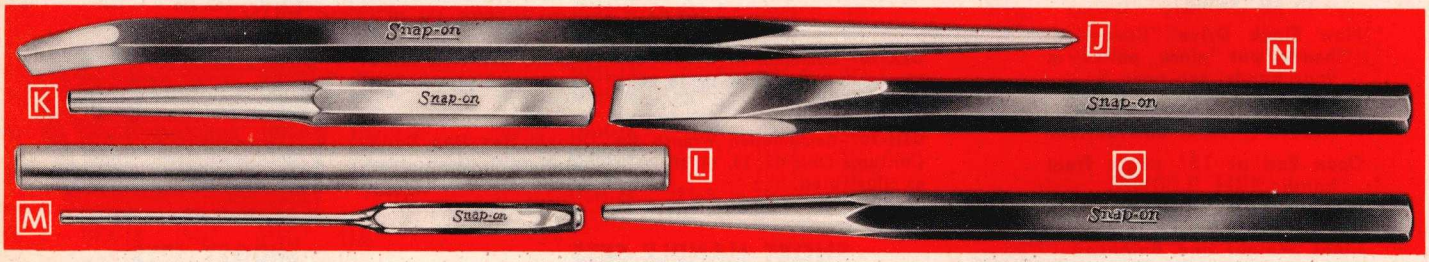
Ⓖ When driving out pins, bolts, etc., always begin the job with a "Starter" punch. Shaft gradually tapers.

Stock No.	Sq. Stock	Point	Length
PPC-203	5/16"	3/32"	5 1/4"
PPC-204	3/8"	1/8"	5 3/4"
PPC-205	3/8"	5/32"	6"
PPC-206	7/16"	3/16"	6 1/4"
PPC-208	1/2"	1/4"	6 3/4"
PPC-210	9/16"	5/16"	7 1/4"

Ⓘ CHISEL AND PUNCH HOLDER

PPC-5 Holder. Saves bruised knuckles and prevents tool from dropping into hard-to-reach spots. It grips any tool or other item up to 1" diameter. Insert the tool to be held and tighten the handle to force the tool against the plastic coated head. The heavy coating of plastic affords a very firm grip on the tool. The holder has our popular black plastic contour handle — it's easy on the hands while giving you a very secure grip while working.

IMPORTANT. Protect Yourself . . . wear safety goggles or safety glasses when using chisels and punches. **Protect Others** . . . work in a booth or with portable screens and warn nearby workers. Avoid "mushroomed" striking ends — keep them ground to original size and shape. Keep chisel edges sharp and punch ends flat — do all grinding on a wheel equipped with a coolant to help avoid overheating the metal. Always use the proper size punch and hold it in direct line to the pin being driven. Proper tool care and usage helps prevent injuries.



PINCH BARS

Ⓙ SNAP-ON pinch bars are hammer forged from high grade alloy steel tempered for great strength. Tapered point end makes a sturdy lining-up tool.

No.	Stock	Edge	Length
1658	1/2"	5/8"	16"
2430	3/4"	7/8"	30"
2434	3/4"	3/4"	22"
2438	3/4"	7/8"	38"
2842	7/8"	1"	42"

NON-SPARKING BRASS PUNCHES

For driving out an object without damaging it or when sparks from a steel punch would be dangerous. Brass mushrooms easily and should be dressed frequently.

Ⓚ **B-912 Brass Punch.** 8" long, 5/8" hex stock tapering to a 3/8" point.

Ⓛ **N-6578 Brass Punch.** 10" long, 3/4" diameter round stock with chamfered ends.

LONG PIN PUNCH

Ⓜ **PPC-107L Long Pin Punch.** 8" overall, has a straight drift section 7/32" diameter and 4 1/2" long. Useful for driving out long pin holding counter shaft and reverse idler shaft in Ford 3-speed transmissions.

LONG FLAT CHISELS

Ⓝ Useful wherever a wide cutting edge and long reach is needed.

No.	Stock	Edge	Length
1020	5/8"	3/4"	11"
1024	3/4"	7/8"	12"
1628	3/4"	15/16"	16"
1832	7/8"	1"	18"

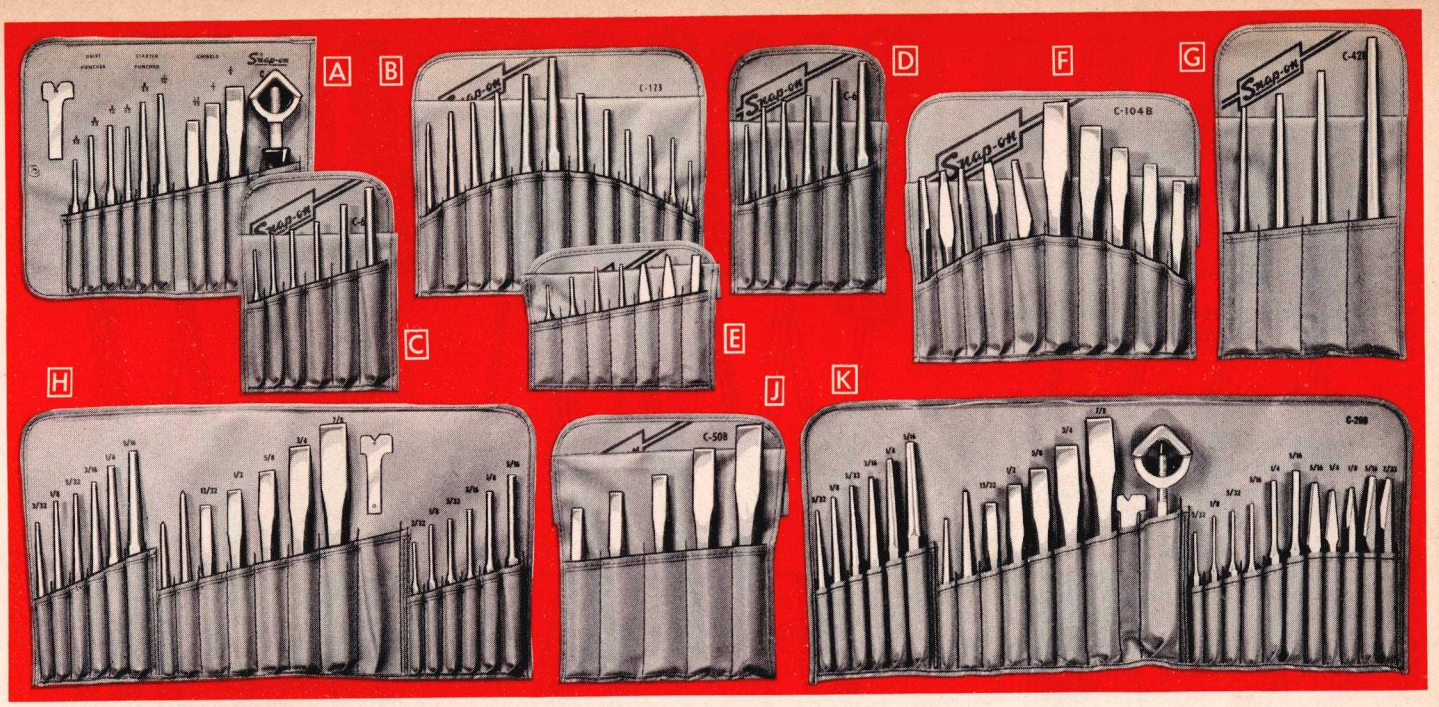
LFC-40 Set. Above 4 tools only.

LONG PUNCHES

Ⓞ For heavy duty industrial work. Forged from high quality steel, heat treated for long service.

No.	Stock	Tip	Taper	Length
1210	5/8"	5/16"	4"	12"
1512	3/4"	3/8"	5"	15"
1816	7/8"	1/2"	6"	18"

LP-30 Set. Above 3 tools only.



BUY Snap-on® CHISELS AND PUNCHES IN FULL SETS

Chisel and Punch Set

Ⓐ **PPC-510-K Set.** Consists of three chisels, PPC-812, PPC-816, PPC-820, three starter punches PPC-203, PPC-205, PPC-206, three pin punches PPC-103, PPC-105, PPC-106, the PPC-5 Tool Holder and a PPC-1 chisel gauge complete in C-105 kit bag. Kit has snap fastener.

PPC-510 Set. Above set without kit bag.

Starter and Pin Punch Set

Ⓑ **PPSD-120-K Set.** Consists of twelve tools: six Starter Punches: PPC-203, PPC-204, PPC-205, PPC-206, PPC-208 and PPC-210, and six Pin Punches: PPC-103, PPC-104, PPC-105, PPC-106, PPC-108 and PPC-110 complete in C-123 kit bag.

PPSD-120 Set. Above Set without kit bag.

Pin Punch Set

Ⓒ **PPCD-60-K Set.** Consists of 6 Pin Punches, PPC-103, PPC-104, PPC-105, PPC-106, PPC-108 and PPC-110 in C-64B kit bag

PPCD-60 Set. Above Set without kit bag.

Starter Punch Set

Ⓓ **PPCS-60-K Set.** Consists of 6 Starter Punches, PPC-203, PPC-204, PPC-205, PPC-206, PPC-208 and PPC-210 in C-64B kit bag.

PPCS-60 Set. Above Set without kit bag.

Midget Punch and Chisel Set

Ⓔ **PPVP-70-K Set.** Consists of seven midget punches and chisels 9/32" square stock. Ideal for many tiny jobs. Includes PPC-402 Pin Punch 3" long, 1/16" pt., PPC-403 Pin Punch 3 1/4" long, 1/8" pt., PPC-404 Center Punch 3 5/8" long, PPC-405 Starter Punch 3 3/4" long, 1/16" pt., PPC-406 Cape Chisel 3 7/8" long, 3/16" edge, PPC-407 Round Nose Cape Chisel 4" long, 5/32" wide and PPC-408 Flat Chisel 4 1/8" long, 5/16" edge, complete in C-72B kit bag.

Complete Chisel Set

Ⓕ **PPC-100-K Set.** Consists of ten chisels: PPC-812, PPC-816, PPC-820, PPC-824 and PPC-828 Flat Chisels; PPC-12 Round Nose Cape Chisel; PPC-13 and PPC-14 Cape Chisels and PPC-15 and PPC-19 Diamond Point Chisels complete in C-104B Kit Bag. Gives you the right type and size of chisel for practically any job requiring this kind of tool. Having the right tool for the job is a real time and labor saver.

PPC-100 Set. Above Set without kit bag.

Long Tapered Punch Set

Ⓖ **PPLT-40K Set.** Consists of four punches: PPC-905, PPC-908, PPC-910 and PPC-912 in C-42B kit bag. You'll find these tools mighty useful for all kinds of lining-up work as well as for actual punching jobs.

PPLT-40 Set. Above Set without kit bag.

Chisel and Punch Set

Ⓗ **PPC-200-K Set.** Consists of nineteen tools, the ones most needed for general work; PPC-812, PPC-816, PPC-820, PPC-824 and PPC-828 Flat Chisels; PPC-203, PPC-204, PPC-205, PPC-206, PPC-208 and PPC-210 Starter Punches; PPC-103, PPC-104, PPC-105, PPC-106, PPC-108 and PPC-110 Pin Punches and PPC-3 and PPC-4 Center Punches complete in C-211A kit bag. A chisel gauge is also included.

PPC-200 Set. Above Set without kit bag.

Flat Chisel Set

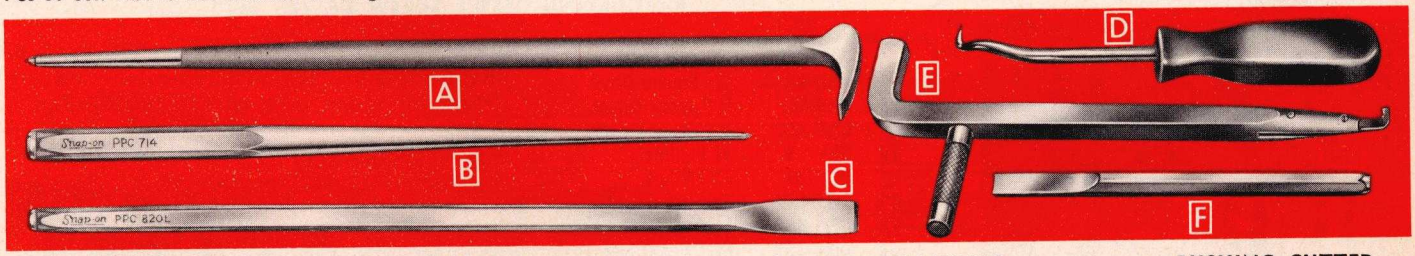
Ⓙ **PPC-50-K Set.** Consists of five chisels: PPC-812, PPC-816, PPC-820, PPC-824 and PPC-828 complete in C-50B kit bag.

PPC-50 Set. Above Set without kit bag.

Complete Chisel and Punch Set

Ⓚ **PPC-260-K Set.** Consists of twenty-four chisels and punches, a tool holder and a chisel gauge. The set gives you the right size and type tool for virtually any job of this nature. Included are PPC-203, PPC-204, PPC-205, PPC-206, PPC-208, and PPC-210 Starter Punches; PPC-103, PPC-104, PPC-105, PPC-106, PPC-108 and PPC-110 Pin Punches; PPC-3 and PPC-4 Center Punches; PPC-13 and PPC-14 Cape Chisels; PPC-12 Round Nose Cape Chisel; PPC-15 and PPC-19 Diamond-Point Chisels; PPC-5 Tool Holder and a chisel sharpening gauge; complete in C-260 kit bag.

PPC-260 Set. Above set without kit bag.



PRY BARS

Ⓐ Rolling head exerts tremendous leverage for prying work . . . often used for prying out gears, etc. Point useful for lining-up work. Forged from fine alloy steel.

No. 650 6" Pry Bar. 5/16" diameter stock.
No. 1250 12" Pry Bar. 7/16" diameter stock.
No. 1650 16" Pry Bar. 9/16" diameter stock.
No. 2050 20" Pry Bar. 11/16" diameter stock.

LONG TAPER PUNCH

Ⓑ **PPC-714.** Needed for sheet metal work and body work on late model cars. Also handy for lining up parts for assembly work. 9/16" beveled square stock, 5/32" point, 9 13/16" taper. 14" long.

LONG FLAT CHISEL

Ⓒ **PPC-820L.** Gives you the necessary reach to handle sheet metal and body work on late model cars. 1/2" bevelled square stock, 5/8" edge width with 70° cutting angle, 16" overall length.

COTTER PIN TOOLS

Ⓓ **CP-3A Cotter Pin Puller.** Point of blade is inserted into the loop of the pin and the pin jerked out. One of the bends can be used as a rolling head to build up leverage to pull even larger pins easily. Blade is specially heat treated for utmost strength. 8" long.

Ⓔ **S-9094B Cotter Pin Puller.** Insert hook end into cotter pin. Hit anvil end sharply, out comes pin. Hook is of tough steel pinned in place and can be replaced easily. Over-all length is 10". Side handle gives a good grip.

S-9094A2X Hook and rivet set.

BUSHING CUTTER

Ⓕ **GA-1 Bushing Cutter.** For splitting soft metal bushings in housings, steering sectors, spindles, pistons, connecting rods, etc., made from 1/2" octagon stock, 7 1/4" long, 7/16" by 3/16" bit. Curved bit pushes the cut material away from the work. Makes it very easy to remove such bushings without damage to other parts and gets the job done fast.

Snap-on SCREW DRIVERS



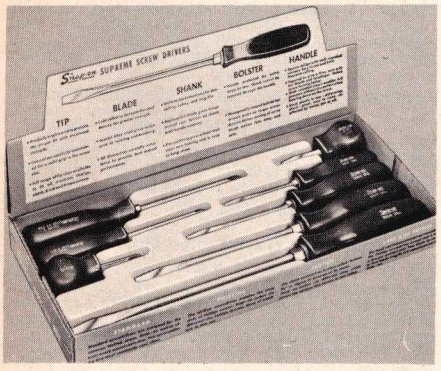
with NEW Contour-Grip Handles

- **More turning power . . .** These handles provide all three of the factors that contribute to turning power.

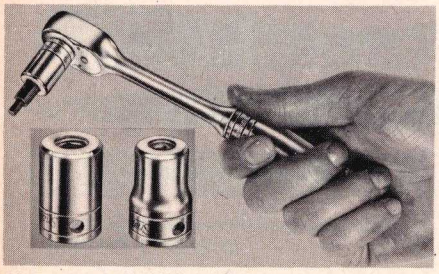
1. **Proper size relationship of handle to blade.**
2. **A shape that fits the hand and will not slip under pressure.**
3. **A shape that is comfortable to hold and will not cut into your hand.**

- **Shock-resistant handles . . .** made of tough black plastic that has proved practically unbreakable in use and has a very high dielectric strength.
- **Blades are tough . . .** made of very high grade alloy steel, heat treated the entire length to develop maximum strength and toughness.
- **Blades well anchored . . .** extra long crimped wings on shanks prevent turning in the handles.

SET OF MOST USED SCREW DRIVERS



SDX-80 Screw Driver Set. Contains 5 standard blade, round shank drivers: SSD-1, SSD-2, SSD-4, SSD-6 and SSD-8 listed on page at right and 3 Phillips drivers: SSDP-22 (No. 2 bit), SSDP-31 (No. 1 bit) and SSDP-42 (No. 2 bit) listed on page 77. Packaged in an attractive carton with molded plastic insert to hold drivers in place.



SPECIAL HEX SOCKETS FOR USE WITH SCREWDRIVER BITS SHOWN IN THE SET AT THE RIGHT

Add these sockets to your CRA-180A-K Kit of SNAP-ON screwdriver bits shown at the right and you increase their usefulness many times. On many jobs where space permits you can do the job easier and faster by using the socket and 3/8" square drive ratchet instead of the small ratchet included in the set.

FBS-8. 1/4" Hex Socket. 3/8" drive.
FBS-9. 5/16" Hex Socket. 3/8" drive.

Snap-on STANDARD TIP SCREW DRIVERS

ROUND SHANK SERIES

This series has round shanks and the 2½" to 12" blades have a forged bolster which prevents forcing the blade into the handle. The bolster on the 8" and 12" sizes is hexagon shaped . . . a wrench can be applied to give extreme leverage. Tips are precision cross ground.

Stock No.	Blade Tip Width	Blade Length	Blade Dia.	Overall Length
SSD-1	1/4"	1½"	1/4"	3¼"
SSD-2	3/16"	2½"	7/32"	6"
SSD-4	1/4"	4"	1/4"	7¾"
SSD-6	5/16"	6"	5/16"	10¼"
SSD-8	3/8"	8"	3/8"	12⅞"
SSD-12A	15/32"	12"	7/16"	18 9/16"

SSDS-50 Standard Screw Driver Set. One each of five screw drivers SSD-1 through SSD-8. SSD-12A not included.

SQUARE SHANK SERIES

Many industrial users prefer square bladed screw drivers . . . the square stock adds to the twisting strength and when tight screws are turned a wrench can be applied to give additional leverage. These drivers have precision cross ground tips and are highest quality throughout.

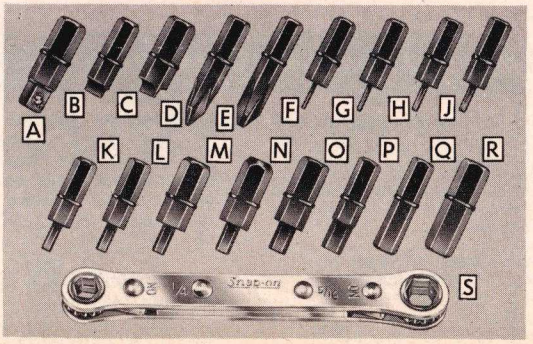
Stock No.	Blade Tip Width	Blade Length	Blade Stock	Overall Length
SSD-42	3/16"	2⅜"	3/16"	5⅞"
SSD-44	1/4"	4"	1/4"	7¾"
SSD-46	5/16"	6"	9/32"	10¼"
SSD-48	3/8"	8"	5/16"	12⅞"
SSD-412	7/16"	12"	3/8"	17½"

SSDA-50 Standard Screw Driver Set. One each of above five screw drivers SSD-42 through SSD-412.

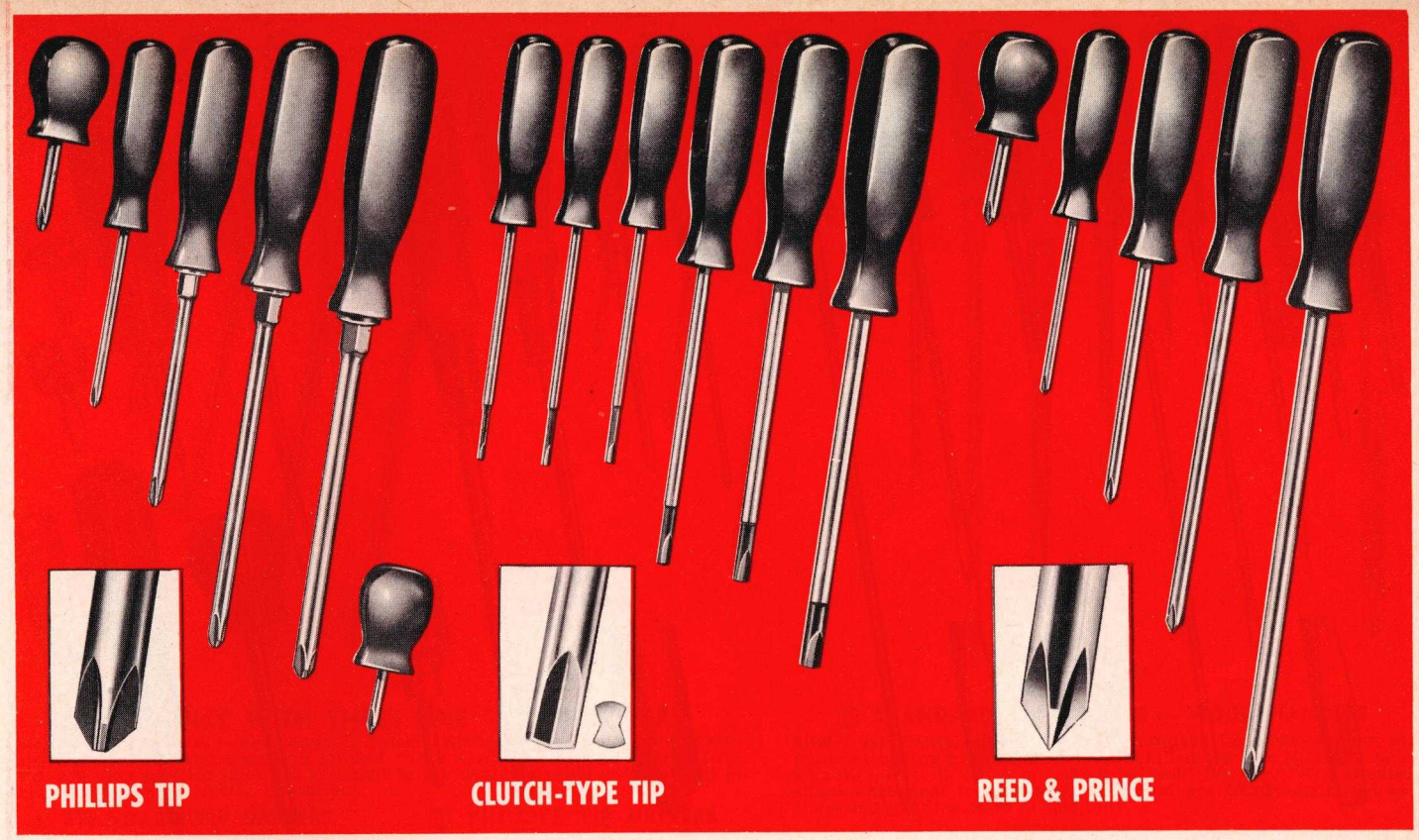
RATCHETING OFFSET SCREW DRIVER BITS

	Stock No.	Description
A	CRD-8A	1/4" Square Drive
B	CRS-8A	1/4" Screw Driver
C	CRS-12A	3/8" Screw Driver
D	CRP-1B	#1 Phillips
E	CRP-2B	#2 Phillips
F	CRA-1.5A	.05" Hex Driver
G	CRA-2A	1/16" Hex Driver
H	CRA-2.5A	5/64" Hex Driver
J	CRA-3A	3/32" Hex Driver
K	CRA-3.5A	7/64" Hex Driver
L	CRA-4A	1/8" Hex Driver
M	CRA-4.5A	9/64" Hex Driver
N	CRA-5A	5/32" Hex Driver
O	CRA-6A	3/16" Hex Driver
P	CRA-7A	7/32" Hex Driver
Q	CRA-8A	1/4" Hex Driver
R	CRA-10A	5/16" Hex Driver
S	R-810S	1/4" & 5/16" Ratchet

The combination of Ratchet-Boxocket and adaptor bits provide an offset ratcheting screw driver for many uses where space is limited. Retaining ring on each bit holds the bit in the ratchet openings.



CRA-180A-K Ratcheting Offset Screw Driver Set, consisting of all 17 Adaptors above with R-810S Ratchet, in plastic packet C-24 and GA-168 metal case.



Snap-on® PHILLIPS DRIVERS

This is our finest line of Phillips screw drivers. They are built with superior alloy steel blades specially heat treated to give the wear resisting qualities needed for turning self-tapping screws. The blades have high buffed finish. Avoid damage to bits and screws by using the proper size bit and by cleaning dirt out of the screw recess.

Stock No.	Phillips Bit	Blade Length	Blade Diameter	Overall Length
SSDP-21	#1	1″	3/16″	2¾″
SSDP-22	#2	1½″	¼″	3¼″
SSDP-31	#1	3″	3/16″	5⅞″
SSDP-42	#2	4″	¼″	7¾″
SSDP-63	#3	6″	5/16″	10¼″
SSDP-64	#4	6″	⅜″	10 13/16″

SSDP-50 Phillips Driver Set, one each of above screw drivers except SSDP-64.

Snap-on® CLUTCH DRIVERS

Top grade quality screw drivers for turning screws of the clutch-bit type. These screws are also commonly referred to as figure-8 or butterfly screws. Blades are high grade alloy steel and the bit ends are machined to close tolerances to fit accurately in the screw head recess. Careful heat treatment gives these tips exceptional strength.

Stock No.	Blade Tip	Blade Length	Blade Diameter	Overall Length
SSDC-4	⅛″	4″	5/32″	6⅞″
SSDC-5	5/32″	4″	5/32″	6⅞″
SSDC-6	3/16″	4″	11/64″	7¼″
SSDC-8	¼″	5″	15/64″	8¾″
SSDC-10	5/16″	5″	19/64″	9¼″
SSDC-12	⅜″	6″	13/32″	10¼″

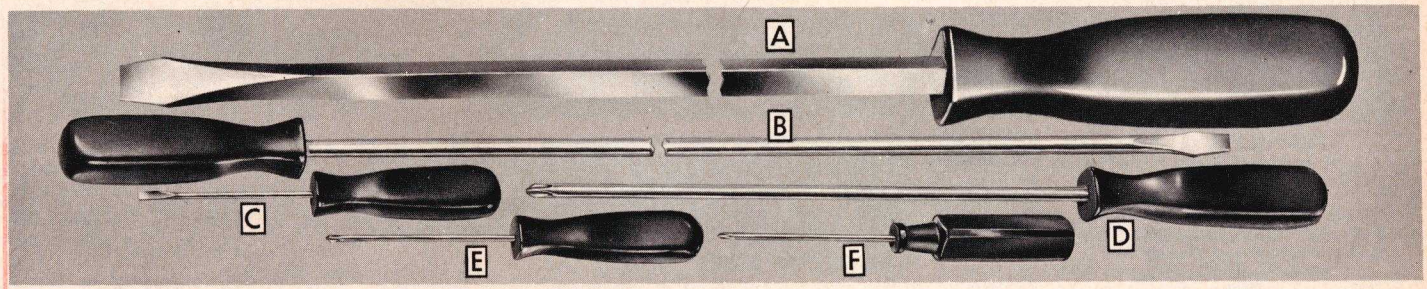
SSDC-60 Clutch-type Screw Driver Set. One each of above screw drivers.

Snap-on® R. & P. DRIVERS

Among the various types of recessed head screws now in common use throughout industry is the Reed and Prince cross-slot screw. This type of screw should not be confused with the Phillips screw for there is a great difference in the slots. Compare them closely and you will see that each requires a special and different type of screw driver. Alloy steel blades are carefully machined and heat treated.

Stock No.	Blade Tip	Blade Length	Blade Diameter	Overall Length
SSDR-1	¼″	1½″	¼″	3¼″
SSDR-3	3/16″	2½″	3/16″	5⅜″
SSDR-4	¼″	4″	¼″	7⅞″
SSDR-6	5/16″	6″	5/16″	10¼″
SSDR-8	⅜″	8″	⅜″	12⅞″

SSDR-50 Reed and Prince Screw Driver Set. One each of above screw drivers.



Ⓐ **SSD-18 Heavy Duty Screw Driver.** A powerful 18″ blade screw driver . . . especially useful in industrial use for screw heads of ⅝″ diameter and larger. The alloy steel blade has a ½″ wide tip and is made of 7/16″ square stock which can be turned with a wrench to move tight screws. The large Contour-Grip plastic handle gives plenty of leverage and is shock resistant.

Ⓑ **SSD-422A Extra Long Screw Driver.** Slender 21¾″ blade that gets to those hard-to-reach screws. Blade is 5/16″ round stock, it is made from fine alloy steel and heat treated to give resilience to the shaft and hardness and toughness to the tip. Tip is cross ground to give the best fit and grip in the screw slot. Tip size is 5/16″ x 1/32″. Overall length of this screw driver is 25½″.

Ⓒ **SSD-234 Short Screw Driver.** 3″ long blade made of 9/64″ diameter round stock with standard type tip ⅛″ wide. Contour-Grip black plastic handle is shock-resistant.

Ⓓ **SSDP-102 Long Phillips Screw Driver.** A No. 2 Phillips bit on a 9⅝″ long blade. This is over twice the length that most No. 2 bit drivers provide and reaches into deep recesses. Superior alloy steel round blade is ¼″ diameter. Overall length is 13½″. Plastic handle is shock-proof.

Ⓔ **SSDP-319 Thin Phillips Screw Driver.** A No. 1 Phillips bit on a 3¼″ blade securely anchored in a Contour-grip, black plastic, shock resistant handle. The blade is round and is ⅛″ in diameter.

Ⓕ **SSDEP-30 Very Thin Phillips Screw Driver.** No. 0 Phillips bit on a 3″ long blade that is firmly anchored in a black plastic handle. Basic square shape handle has rounded edges and longitudinal serrations to provide a firm, comfortable grip and also has a smooth end recess for finger pressure application during turning operations. This driver is needed on many intricate assembly jobs.



Ⓐ THIN BLADE SCREW DRIVERS

Here are real timesaving tools for electrical and electronic assembly and maintenance, or any other limited space work. Thin driver blade tip is the same width as the shank diameter, to follow screw below surface or work among intricate assemblies. Blades are made from extra-tough alloy steel for long life. Tips are precision-machined to seat properly in screw slots to prevent slippage and damage. Crimped shanks anchor firmly to prevent turning in handles. Plastic handles are comfortable to hold, have a high dielectric strength and are practically unbreakable. Handle end has a smooth round recess for finger pressure during the screw turning operation.

With 3/16" Blade and Tip
(Illustrated)

Stock Number	Blade Length	Weight
SSDE-63	3″	1 oz.
SSDE-64	4″	2 oz.
SSDE-66	6″	2 oz.
SSDE-68	8″	2 oz.
SSDE-610	10″	2 oz.

SSDE-650 Set of 5 Thin Blade screw drivers with 3/16" blade.

With 1/8" Blade and Tip
Similar to above but thinner.

Stock Number	Blade Length	Weight
SSDE-42	2″	1 oz.
SSDE-43	3″	1 oz.
SSDE-44	4″	1 oz.
SSDE-46	6″	1 oz.
SSDE-48	8″	2 oz.

SSDE-450 Set of 5 Thin Blade screw drivers with 1/8" blade.

SSDE-100 Set of 10 Thin Blade screw drivers consisting of all ten Thin Blade screw drivers listed above.

Ⓑ CABINET SCREW DRIVERS

Our Cabinet screw drivers are fitted with plastic black contour-grip handles — the kind that are practically unbreakable and have high dielectric strength. The long, thin blades are made from a special high test alloy steel, carefully heat treated to give them tough working tips and strong resilient shanks. Because of their long slender blades these screw drivers can be used on many jobs where there is little clearance and where a long reach is necessary to turn smaller types of screws. They are especially recommended for electrical and body work. The superb blade is of 3/16" round stock.

Stock No.	Blade Length	Blade Diam.	Overall Length
SSD-143	3″	3/16″	6¼″
SSD-146	6″	3/16″	9⅜″
SSD-1410	10″	3/16″	13¼″

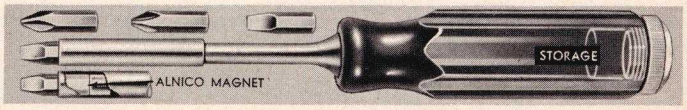
SCD-30 Screw Driver Set. One each of above screw drivers.

Ⓒ PHILLIPS SCREW DRIVERS

We offer these wood handle screw drivers in a range of Phillips Head bits for the many tool users who prefer the feel of a good wood handle. The handles are selected hardwood with smooth finish in natural color. The blades are made of fine quality steel tempered to give utmost service and they have a sand blasted finish. A heavy steel ferrule anchors the blade in the handle.

Stock Number	Bit	Blade Lgth.	Blade Dia.	Overall Length
SDWP-241	#2	1½″	¼″	3 7/16″
SDWP-133	#1	3″	3/16″	7″
SDWP-123	#1	3¼″	⅛″	7¼″
SDWP-244	#2	4″	¼″	9¼″
SDWP-355	#3	6⅛″	5/16″	12¼″

SDWP-50 Phillips Set. All five screw drivers listed above.



MAGNETIC SCREW DRIVER SETS

A powerful Alnico magnet anchored in the hollow shaft holds the bits in the shaft, making them easy to interchange and magnetizes the bit for holding and starting steel screws. One bit remains in the magnetic shank while others are carried in the hollow handle under the plastic cap. When tip wears you do not throw away the entire screw driver — just replace the tip. Handle is plastic.

SDM-40 Magnetic Screw Driver Set. Contains handle with 4″ shank and 4 bits, SDM-211, SDM-213, SDM-221, SDM-222.

SDM-80 Magnetic Screw Driver Set. Contains handle with 8″ shank and 4 bits, SDM-211, SDM-213, SDM-221, SDM-222.

SDM-211 St'd Bit. .031″ x 3/16″ tip.
SDM-212 St'd Bit. .035″ x ¼″ tip.
SDM-213 St'd Bit. .040″ x ¼″ tip.
SDM-221 Phillips Bit. No. 1 tip.
SDM-222 Phillips Bit. No. 2 tip.
SDM-231 Reed and Prince Bit.

SPARK TEST SCREW DRIVERS

The neon tube fitted into handle tells condition of plug by type of flash. Brilliant flash means good condition — a thin flash indicates too narrow a gap — no flash means a short. Slim blades and plastic handles make these excellent for electrical work.

Ⓓ **SSD-214 Spark Testing Screw Driver.** 2¼″ blade. This tool is fitted with a pocket clip.

Ⓔ **SSD-145 Spark Testing Screw Driver.** 5⅛″ blade.

MISCELLANEOUS SCREW DRIVERS

Ⓕ **SSD-153.** A large handle gives you power — a short blade lets you get close to the work so you can bear down. Tip is 1/16″ thick and ⅜″ wide. Blade length is 2 13/32″, 7 5/32″ overall length.

Ⓖ **SSD-204 Screw Driver.** The 2″ long blade has a magnetized tip. The plastic handle is fitted with a convenient pocket clip. ⅛″ tip, overall length 4⅝″.

Ⓗ **SSDP-242.** #2 Phillips. Blade length is 1½″. Over-all length is 5 7/16″.

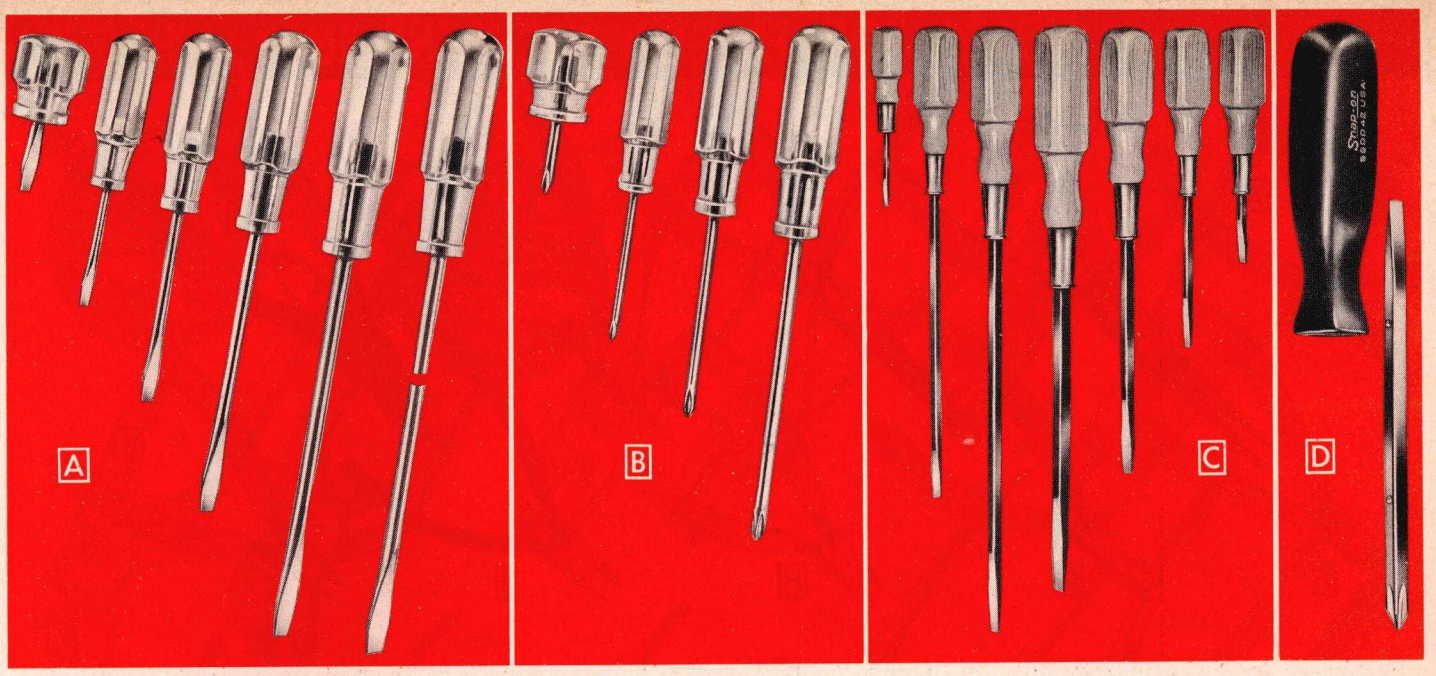
Ⓙ **SSDP-243.** #2 Phillips. Has stubby handle with blade length of 3″, overall 4¾″.

Ⓚ **SD-11A Stubby Screw Driver.** The end of the fluted plastic handle is concave and acts as a finger pivot. ⅞″ blade, 1 11/16″ overall length.

Ⓛ **Stubby Phillips Drivers.** Yellow, fluted plastic handles of high dielectric strength have concave end to act as finger pivot. Each has a 1 3/16″ long blade and is 1 9/16″ overall.

SDP-11. No. 1 Phillips screw driver.

SDP-12. No. 2 Phillips screw driver.



SAVE MONEY WITH THESE FINE SCREW DRIVERS

Quality screw drivers — economically priced. Blades are of tough steel, carefully heat-treated and precision ground. "Octo-Grip" handles provide a firm grip, are very durable, and are resistant to the usual solvents encountered in garage and service station operations.

Ⓐ STANDARD TIP DRIVERS

Stock No.	Blade Tip	Blade Length	Blade Diameter	Overall Length
UDS-101	1/4"	1 1/2"	3/16"	3 1/4"
UDS-102	3/16"	2 1/2"	3/16"	5 3/4"
UDS-104	1/4"	4"	1/4"	7 3/4"
UDS-106	5/16"	6"	5/16"	10 1/4"
UDS-108	3/8"	8"	3/8"	12 3/4"
UDS-112	13/32"	12"	3/8"	16 3/4"

UDS-156 Set. One each of above drivers except UDS-112.

Ⓑ PHILLIPS TIP DRIVERS

Stock No.	Phillips Bit	Blade Length	Blade Diameter	Overall Length
UDP-122	No. 2	1 1/2"	1/4"	3 1/4"
UDP-131	No. 1	3"	3/16"	6 1/4"
UDP-142	No. 2	4"	1/4"	7 3/4"
UDP-163	No. 3	6"	5/16"	10 1/4"

UDP-140 Set. One each of above Phillips drivers.

UDS-150-K Screw Driver Set. Consists of UDS-102, UDS-104, UDS-106, UDS-131 and UDS-142 in C-22A Vinyl Kit Bag.

Ⓒ STANDARD TIP DRIVERS — WOOD HANDLES

SDW-7 Set. Contains seven sizes of standard tip screw drivers at a money saving price. Blade sizes included are 2" x 3/16", 2" x 1/8", 4" x 3/16", 6" x 1/4", 8" x 3/16", 8" x 5/16" and 10" x 1/4". The square shanks are heat treated alloy steel and are firmly anchored in the wood handles. Sold in sets only.

Ⓓ REVERSIBLE BLADE SCREW DRIVER

SSDD-42 Reversible Screw Driver. Reversible blade has a 1/4" wide blade on one end and a No. 2 Phillips tip on the other. It is held in place in the black TENITE plastic handle by a friction ball. Handle resists gas, oil and grease and has high dielectric strength. The SSDD-42-1 blade is 6" long with 3 3/4" exposed.

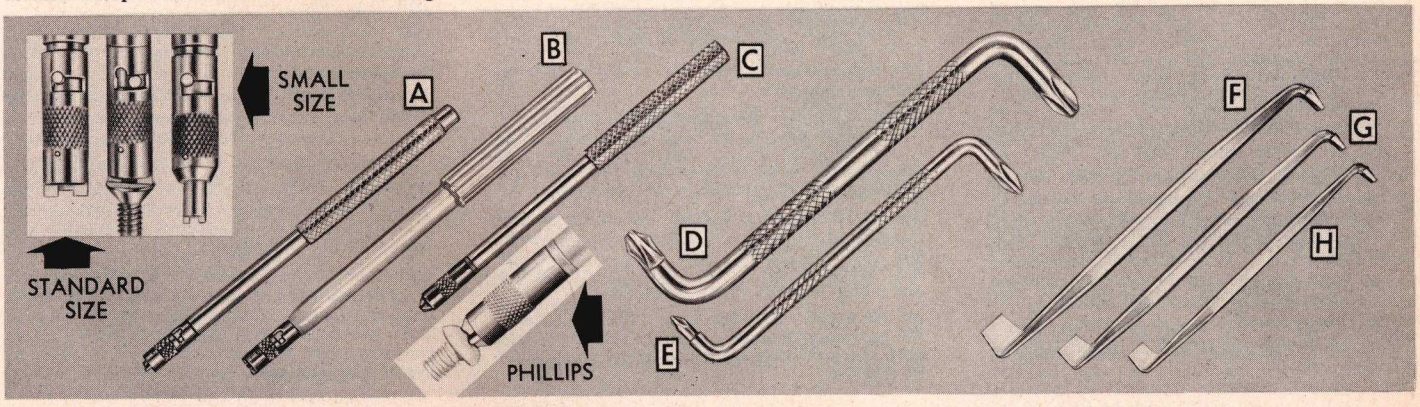
SSDD-42-1 Blade. No. 2 Phillips and 1/4" Standard Tips.

SSDD-44 Reversible Blade Driver Set. (Not shown.) Consists of the SSDD-42 Reversible Blade Screw Driver above and three following additional blades, in C-5 kit bag.

SSDD-44-1 Blade. No. 1 Phillips and 3/16" Standard Tips.

SSDD-44-2 Blade. No. 3 Phillips and 5/16" Standard Tips.

SSDD-44-3 Blade. .145" and .170" Clutch-type Tips.



SCREW STARTERS SAVE A LOT OF TIME

The spring loaded steel bit grips the screw slot walls so tightly that it will withstand an eight-pound pull . . . yet automatically releases when screw pressure reaches a certain tension. This feature protects the screw-starter from damage. There are no claws or sliding ferrules to hit against obstructions and the slender handles reach into close places. The standard sizes have blades 9/32" wide and .032" thick. Small sizes have blades 5/32" wide and .020" thick.

STARTERS FOR STANDARD SLOTTED SCREWS

▲ Ⓐ With Aluminum Handles

Standard Size	Small Size	Overall Length
SS-3	SS-33	2 1/2"
SS-5	SS-55	5 1/4"
SS-9	SS-99	9 1/2"
SS-15	—	15"

SS-40 Set. One each of the four standard size screw starters listed above.

▲ Ⓑ With Plastic Handles

Standard Size	Small Size	Overall Length
SSN-3	SSN-33	2 1/2"
SSN-5	SSN-55	6"
SSN-9	SSN-99	9"

SSN-30 Set. One each of three standard size screw starters listed above.

Ⓒ STARTERS FOR PHILLIPS HEAD SCREWS

Have the same outstanding features as the Starters described above but for Phillips head screws. Handles are of aluminum with knurled portion for firm grip.

GA-260 Short Starter, 2 1/2" overall.

GA-261 Long Starter, 5 1/4" overall.

OFFSET SCREW DRIVERS

Excellent for reaching that out-of-the way screw head. This complete set in your tool box will let you handle any size or type of screw.

FOR PHILLIPS HEAD SCREWS

Ⓓ **ST-034A Phillips Head Offset Screw Driver.** With No. 3 and No. 4 bits. 6" long. Cadmium plated.

Ⓔ **ST-012A Phillips Head Offset Screw Driver.** With No. 1 and No. 2 bits. 4 3/4" long. Cadmium plated.

FOR STANDARD SLOTTED SCREWS

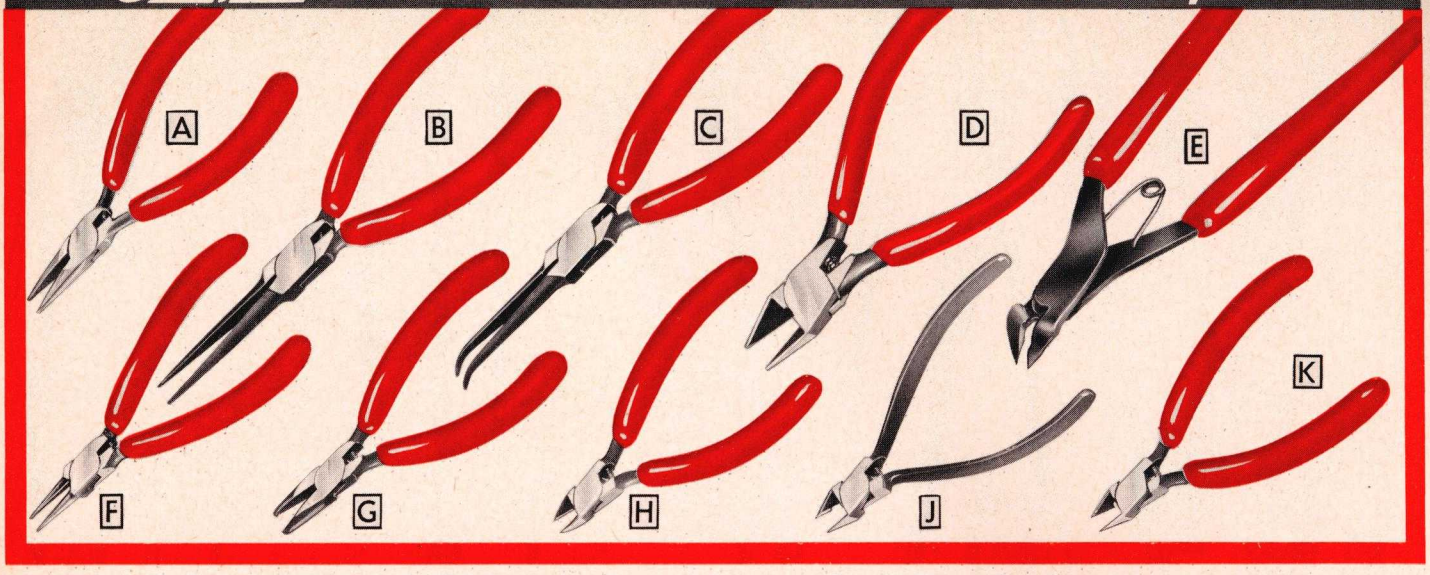
Ⓕ **040 Offset Screw Driver** with 3/8" x 3/64" blades. 5 1/2" long, 3/8" stock. Cadmium plated.

Ⓖ **030 Offset Screw Driver** with 5/16" x 1/32" blades. 5" long, 5/16" stock. Cadmium plated.

Ⓗ **020 Offset Screw Driver** with 1/4" x 1/32" blades. 5" long, 1/4" stock. Cadmium plated.

▲ Federal Specs: GGG-S-121D applies to Screw Starters indicated by symbol ▲.

Snap-on PLIERS FOR ELECTRONIC ASSEMBLY, ETC.



The pliers illustrated above have been specially designed for the electronic industry. All are made of special alloy steel and have been selectively heat treated for maximum strength and jaw hardness. Precise machining and carefully controlled riveting assures easy, wobble-free action, retention of jaw alignment and accurate mating of jaw tips. Most of these pliers are provided with baked-on plastic handle coating.

Midget Electronic Cutters. These are excellent for miniature assembly work. Thin, tapered cutting jaws work in the tightest places. A small hole at the base of the blades relieves pressure on the cutting edges and permits cutting with the top 1/8" of the blades. Do **not** use this hole as a wire stripper. All of the above pliers except E-706B are fitted with a coil spring for easy operation.

Note: The True-Flush models have extremely thin cutting edges and should only be used when a true flush-cut is important.

Ⓐ **No. E-708 Midget Needle Nose Pliers.** 7/8" jaw length. Plastic coated handles are fitted with a coil spring for easy operation.

Ⓑ **No. E-701 — 6½" Needle Nose Plier.** Non-serrated jaws are 2 3/16" long, with extra slim taper and 1/16" tip width. Handles have plastic coating and are fitted with a coil spring for fast, easy operation.

Ⓑ **No. E-703 — 6½" Needle Nose Pliers.** Same as the E-701 except that the jaws are finely serrated for positive gripping action.

Ⓒ **No. E-702 — Bent Needle Nose Pliers.** Extra Slim, non-serrated jaws. 2¼" jaws have the nose bent at 45° to reach around corners. Tips are 1/16" wide. Handles have fitted coil spring for easy operation and are plastic coated. Tool has 6 13/32" overall length.

Ⓒ **No. E-704 — Bent Needle Nose Plier.** Same as the E-702 except that jaws have finely serrated tips.

Ⓓ **No. 710 Diagonal Flush Cutting Plier.** Has 3/4" long cutting blades and an overall length of 5/16". Handles have red plastic coating and are fitted with a coil spring that contributes to fast and convenient use. The long, slim, flush cutting jaws speed those jobs requiring longer reach and precise cutting power.

Ⓔ **No. E-706B — Flush Cutting End Nipper.** 6 1/8" overall length, 3/16" cutter length. Jaws and cutters specially heat-treated. Removable heavy duty handle spring speeds the opening action. Plastic coated handles.

Ⓕ **No. E-700 Wire Looper Plier.** 4 19/32" long. Round, non-serrated jaws are 3/4" long and tapered from 7/32" to a tip diameter of 3/61". Handles are fitted with a coil spring and have plastic coated handles.

Ⓖ **No. E-705 — End Cutter.** 4½" overall length. 3/4" long jaws taper to a 1/8" wide tip with flush cutting blades. Handles have plastic coating.

Ⓗ **No. E-707 4¼" Flat True-Flush Cutting Plier.** Cutting blades are perfectly flat and parallel with the handles. This precision tool can be damaged by abuse and should only be used where true flush-cuts are essential. Handles have plastic coating and are fitted with a coil spring.

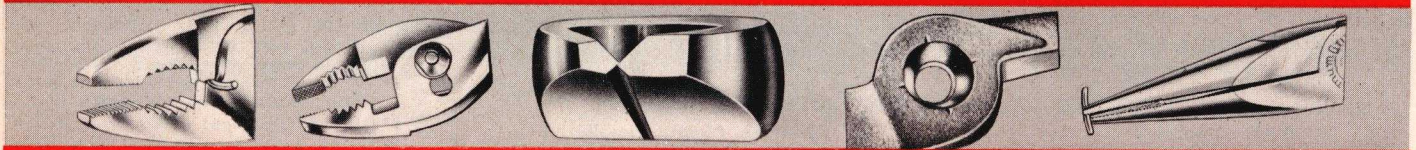
Ⓙ **No. 184D 4¼" Semi-Flush Diagonal Cutting Plier.** 1/8" Cutting length on the jaws.

Ⓙ **No. 184DD 4¼" True Flush Diagonal Cutting Plier.** 1/8" Cutting length on the jaws.

Ⓚ **E-709 4¼" True-Flush Diagonal Cutting Plier.** Excellent for close tolerance work. Cutting blades are 31/64" long. Handles have baked-on plastic coating.

Ⓚ **E-711 4¼" Semi-Flush Diagonal Cutting Plier.** Similar in appearance to the E-709 but with semi-flush cutter blade angles. This provides a stronger blade edge and is recommended for use whenever a true-flush cut is not essential.

QUALITY FEATURES MAKE Snap-on PLIERS PERFORM BETTER AND WEAR BETTER



SNUB NOSE GRIPS CLOSE CURVED CUTTER GRIPS WIRE

CURVED SECTION FOR GRIPPING PIPE, ETC.

OVERLAP SHEAR ACTION CUTS BETTER—SAVES EDGE

STAR CHAMFER STOPS RIVET FROM TURNING

NEEDLE NOSE JAWS ARE ALIGNED FOR SURE GRIP

GRIPPING PLIERS

Flat end permits plier to snub against objects where rounded nose pliers would fail.

End gripping sections have parallel teeth or cross-cut teeth, depending on the plier model . . . provide a secure non-slip grip. Curved gripping sections have large, deep broached teeth to grip tightly on pipe and odd shape objects.

Stud positioning hole is broached to give a true bearing surface and a snug, easy working joint which reduces stud wear and chance of slippage. Curved wire cutters in gripping jaws overlap to provide non-slip action.

All SNAP-ON Pliers are hardened clear through — not surface hardened only. Fast repair service is available to give your SNAP-ON Pliers longer service life.

NEEDLE NOSE AND CUTTING PLIERS

Rivet holes are drilled and reamed to remove burrs and assure easy operation . . . contributes to long plier life.

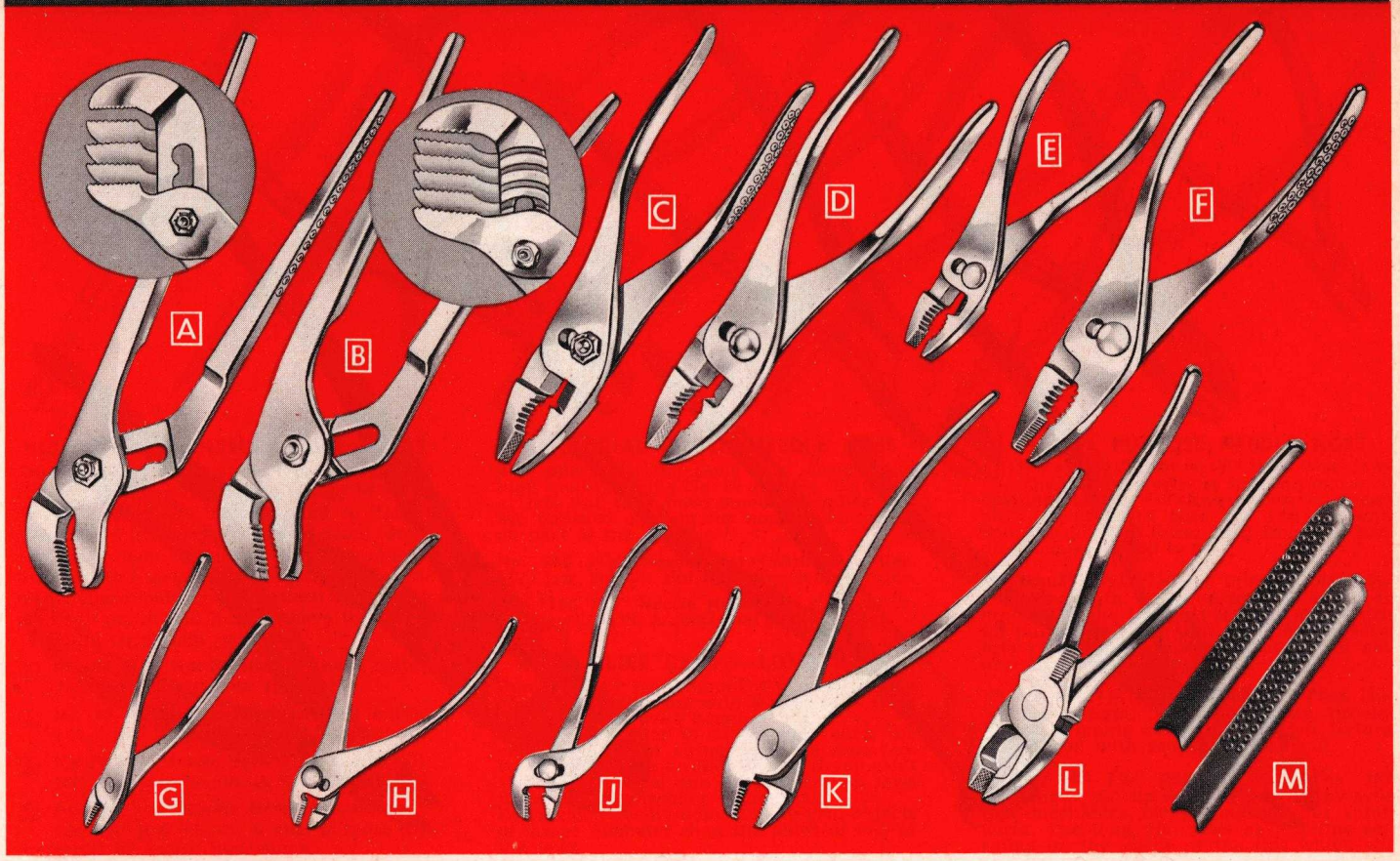
Star Chamfer — forms the rivet head and gives extra holding power to the rivet to prevent jaw looseness — holds jaws in alignment.

Joint surfaces and edges broached and ground to give smooth operation and snug fit . . . eliminate binding.

Electronically heated rivet is forced evenly and exactly into the surface contour of the chamfered hole . . . This assures a smooth joint operation and longer working life.

Cutting edges on standard type cutters are overlapped to give a shearing action. Cutters last longer because they never meet head-on.

Snap-on GRIPPING AND COMBINATION PLIERS



Ⓐ **No. 9C Gripping Plier.** The slip joint design has four spacer holes to permit quick non-slip adjustments and provide approximately parallel working positions of the jaws up to 1⅜" opening.

The long handles give a firm, powerful grip with plenty of leverage to hold onto the object being serviced regardless of its shape, and the long reach is extremely useful on jobs where obstructions prevent entry of your hands. These handles have the raised "Vacuum Cup" pattern.

The jaws are slim . . . only 21/64" thick, but are heat treated to exceptional strength and toughness — they will enter narrow places where most pliers of this capacity cannot go. The 45° jaw angle provides easy working action in otherwise inaccessible places. Teeth are milled sharp and deep to take a firm grip on rods, pipes, etc. Entire tool is nickel and chrome plated. 8¾" long.

Ⓑ **No. 90A Interlocking Joint Gripping Plier.** A raised curved section on one handle interlocks into either of five recessed grooves in the other handle . . . permits fast changes of parallel openings up to 1⅜". The pressure side of the grooves is perpendicular to prevent "ride-under" or slipping.

The slim 45° angle jaws are 21/64" thick for easy entry in tight spots but are heat treated to give unusual gripping strength.

Deep cut teeth set at an angle give a firm grip on round objects, etc. Long handles provide powerful leverage and have the raised "Vacuum Cup" pattern. Tool is nickel and chrome plated and 9¼" long.

Ⓑ **No. 91A Plier.** Same design as No. 90A above but with ball-blast finish and no pattern on handles. Chrome plated.

PL-70B Set. Consists of seven Pliers. Nos. 9C, 50C, 47, 65, 87, 196 and 208A.

Ⓒ **No. 137 Heavy Duty Combination Plier.** Combines powerful gripping leverage with easy cutting action. The 13/32" thick gripping jaws have a flat serrated gripping end section and a curved sharp tooth section for gripping pipe, etc. Slip joint has two positions and the countersunk stud allows cutting close to an object. Handles have raised "Vacuum Grip" cup pattern. Full nickel and chrome plated. 7½" long.

Ⓓ **No. 137C Combination Plier.** Same head design as No. 137 above. Handles are flat, full fashioned with no pattern. Jaw surfaces are polished, remainder of tool has partly polished natural steel finish. 7½" long.

Ⓔ **No. 35C Combination Plier.** 5" overall length. This plier has the same head design as the larger No. 137 above. The handles are full fashioned with a flat, plain surface. The surfaces of the jaws are polished and the rest of the tool is natural steel finish, partially polished.

Ⓕ **Heavy Duty Gripping Plier.** These popular and powerful general use pliers have 2-position slip joints to permit a wide gripping capacity and the jaws provide an end gripping section with sharp, matching, parallel teeth and a curved section with large deep cut teeth for pipe work etc. At the base of the jaws is a wire cutter of curved shape which overlap to prevent wire being forced out as cutting pressure is applied. Handles have raised "Vacuum Grip" pattern. **Following five pliers are nickel and chrome plated.**

No. 44	15/64" Jaw Thickness	4½" long
No. 45	23/64" Jaw Thickness	5 9/16" long
No. 46	23/64" Jaw Thickness	6 7/16" long
No. 47	13/32" Jaw Thickness	7½" long
No. 49	½" Jaw Thickness	9⅛" long

Following pliers have same design as the above but have natural steel finish heads and handles partly polished. No pattern on handles.

No. 44C	15/64" Jaw Thickness	4½" long
No. 45C	5/16" Jaw Thickness	5 9/16" long
No. 46C	23/64" Jaw Thickness	6 7/16" long
No. 47C	13/32" Jaw Thickness	7½" long

Ⓖ **No. 5, 4½" Midget Plier.** A useful little pair of pliers that can be used to excellent advantage on all extremely small work, radio, electrical, small bench jobs. Natural steel finish with polished head. Single position riveted joint. No handle pattern.

Ⓗ **No. 50C 5" Ignition Plier.** Very narrow jaws designed to reach in and turn the thin nuts found in distributors, voltage regulators, etc. The slight angle of the head assists when working around obstructions. 2-position slip joint permits a 13/32" maximum parallel jaw opening. Natural steel finish with partly polished head and handles. No pattern on handles.

Ⓙ **No. 105 5" Ignition Plier.** Midget Pliers with standard 3-position adjustable slip-joint. It's a dandy for servicing carburetor, ignition, radio, and other small jobs. Nickel and chrome plated. Smooth handles.

Ⓚ **208A 7¾" Angle Nose Battery Plier.** Short round nose jaws provide a powerful grip on the terminal nut and prevent damaging top of battery. Valuable for all general gripping purposes. Jaw length 9/16". The thin, tapered nose is offset at a 30° angle for working in awkward spaces. Natural steel finish with partial polish on head and handles. No pattern on handles. Single position riveted joint.

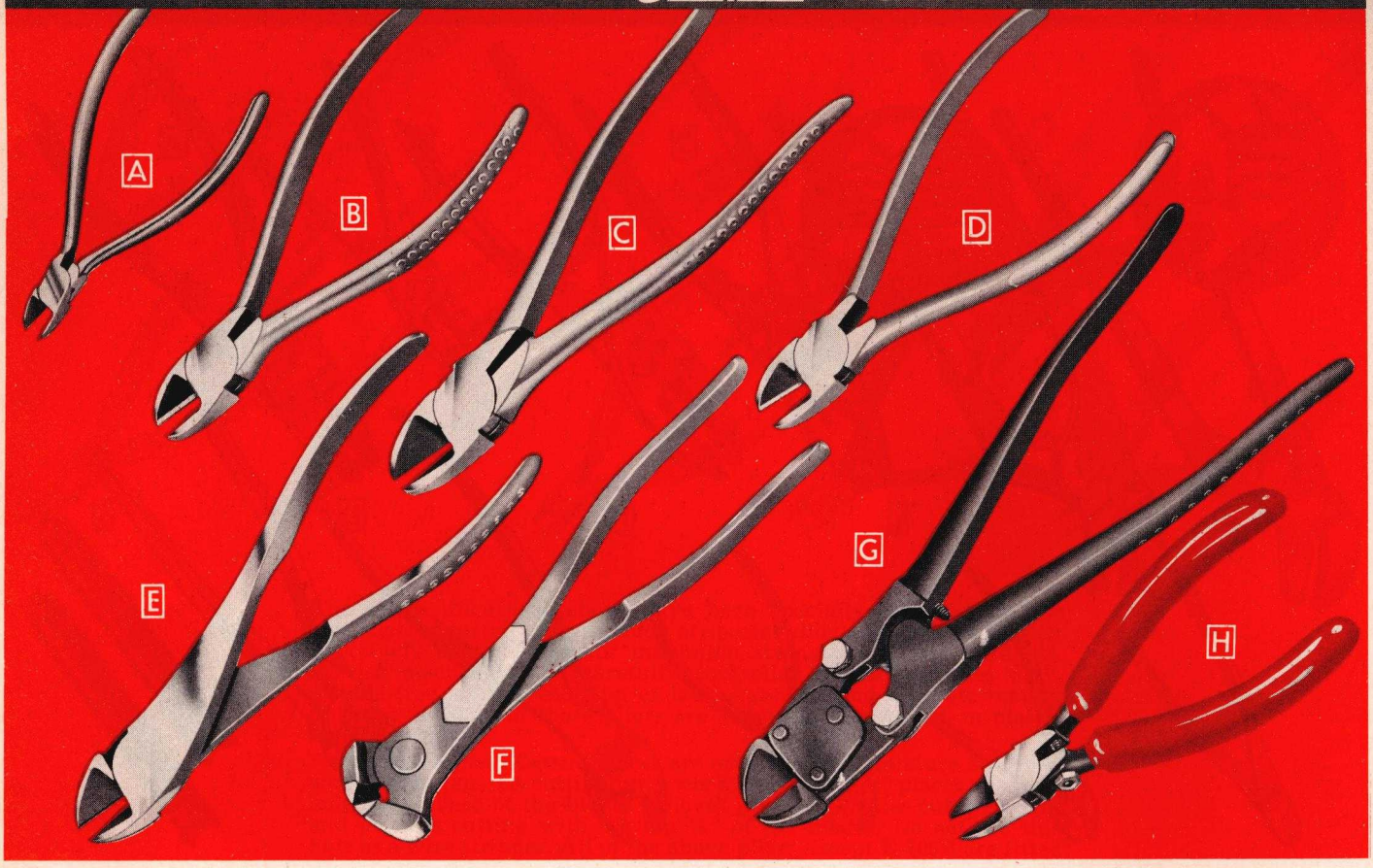
Ⓛ **Lineman Pliers.** Powerfully built tools for gripping, twisting, hammering, and cutting. Engineered to give you narrow jaws for easy entry into tight spots yet tough and strong for hard work . . . localized jaw tempering adds wear and breakage resistance. Wire insulation breaker in handles. Cutter heads are machined to give perfectly matched blades and are induction hardened. Smoothly ground natural steel finish. No pattern on handles.

No. 57R 7" Lineman Plier.
No. HD-59 9¼" Lineman Plier.

Ⓜ **Insulating Handle Grips.** Use any 7" or 8" plier safely on low voltage electrical equipment when fitted with these plastic insulating grips. Easily attached to any shape handle.

PG-7C Pair of Plastic Grips for 7" Pliers
PG-8C Pair of Plastic Grips for 8" Pliers

A WIDE RANGE OF Snap-on CUTTING PLIERS



SNAP-ON gripping and cutting pliers are precision made to give you the finest tools of their kind. Selected alloy tool steel provides the tough jaws and hard cutting edges professional use requires. The toughest, hardest cutting edges possible are produced by an electronic hardening process. This process heats and cools the metal so quickly that distortion of cutting edges is prevented, consequently, you get perfectly matched cutting blades in every SNAP-ON cutting plier. With proper care these SNAP-ON pliers will give years of satisfactory service. This service life can be extended through our factory repair service. Worn joints, rivets, or dulled cutting edges can be reconditioned to work like new. Costs much less than buying new tools.

DIAGONAL CUTTER PLIERS

Ⓐ **No. 184 4¼" Midget Diagonal Cutter.** $1\frac{3}{32}$" jaw length. An excellent tool for all those tiny, tricky wire cutting jobs. It is small, but has abundant cutting power. Cutters are hand filed. Polished head and smooth handles.

Ⓑ **Standard Series Diagonal Cutters.** Heads are polished and handles are natural buffed steel finish with raised "Vacuum Grip" pattern. You cannot buy a better cutter anywhere. Heads are induction hardened and cutting edges machined to a perfect match.

No. 85 4⅞" Diagonal Cutter. $\frac{9}{16}$" jaw length.

No. 86 6" Diagonal Cutter. ¾" jaw length.

Ⓒ **No. 87 7¼" Heavy Duty Diagonal Cutter.** $1\frac{5}{16}$" jaw. Our finest for those tough cutting jobs, cotter pin work, etc. Long full fashioned handles provide powerful cutting leverage. Long tapered heads and jaws match perfectly, are induction hardened. Head is smoothly polished, handles have raised pattern.

Ⓓ **Industrial Finish Diagonal Cutters.** Designed with bow-type handles and no pattern on the handles. Natural steel finish with heads and handles partially polished.

No. 86C 6⅛" Diagonal Cutter. ¾" jaw length.

No. 87C 7¼" Diagonal Cutter. $1\frac{5}{16}$" jaw length.

AVAILABLE TO LARGE QUANTITY BUYERS ON SPECIAL ORDER:

Plastic Handle Coating. Baked on plastic gives a comfortable hand grip.

Plastic Jaw Inserts. Baked on insert grips cut wire . . . helps prevent cut off pieces causing wiring shorts, etc.

HIGH LEVERAGE DIAGONAL CUTTER

Ⓔ **No. 387 7¼" High Leverage Diagonal Cutter.** ¾" jaw length. Sturdy over-capacity jaws handle the toughest cutting jobs. Cutter jaws are hand edged after tool is assembled to insure absolute accuracy in overlapping shear action. Spring tempered handles afford tremendous cutting leverage and comfortable grip. Natural finish with polished head and stamped "Vacuum Grip" pattern on handles.

No. 387C 7¼" Diagonal Cutter. Same design as No. 387 above, but with partly polished head and handles. No handle pattern.

TRUE FLUSH PLASTICS CUTTER

Ⓗ **No. 860A True Flush Cutter.** For cutting plastics and molded rubber products, etc. It is a true flush cutter with a depth of cut adjustment feature. Hard materials require only a shallow cut since brittle material breaks easily, softer material requires a cut to a greater depth. Use a $\frac{1}{16}$" hex head wrench to adjust cutting depth. Cutter blades are $\frac{57}{64}$" long. The tool has a black finish with polished natural steel head surfaces and red plastic coating on handles. 6¼" overall length.

END CUTTING PLIER

Ⓕ **No. 17 7¼" End Cutter.** $1\frac{5}{16}$" jaw width. This improved type of end cutter places the cutting action as closely as possible to the joint rivet in order to give you the greatest possible cutting leverage. The head design lets you cut extremely close to an object or it can be used with a rolling motion to pull nails or other objects. Head is partially polished, handles have a sand blasted natural steel finish without any handle pattern.

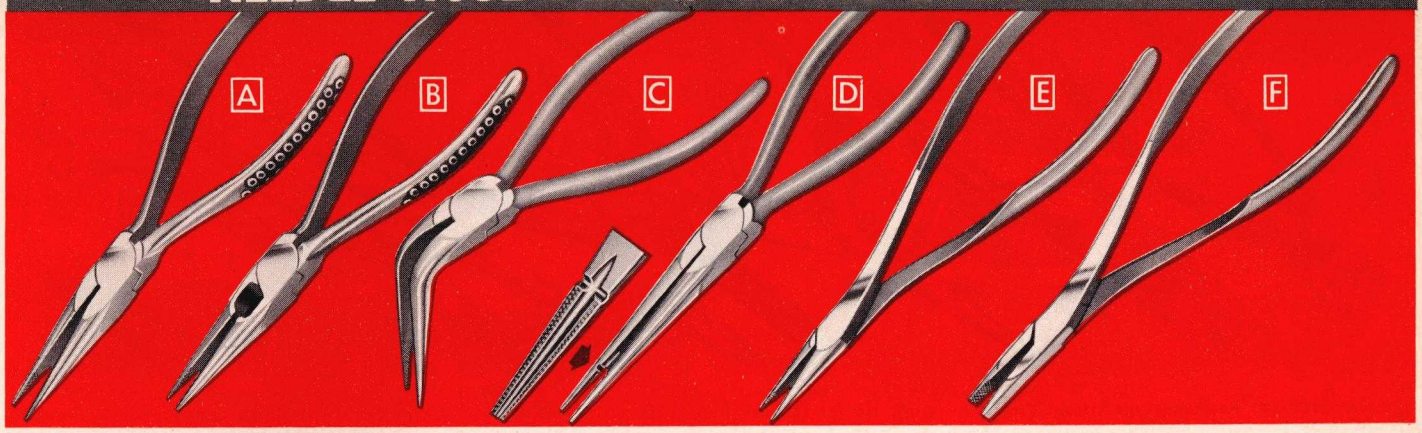
COMPOUND LEVERAGE CUTTER

Ⓖ **HL-9 Compound Leverage Diagonal Cutter.** This excellent high leverage diagonal cutter is designed to provide tremendous power for easy cutting of large diameter wire and small bolts. It incorporates many outstanding features that makes it very popular for the mechanical and industrial field. The operation of the hinged jaws provides approximately four times more cutting leverage than standard diagonal cutters of the same size.

The cutter jaws are ground to give a highly efficient cutting angle and are replaceable when necessary. The maximum jaw opening is ⅜". A screw stop inside the cutter handle may be adjusted to keep jaws from touching each other when bolt is cut — this prevents dulling or nicking.

Full fashioned handles 7¼" long are comfortable with well rounded edges. The cutting jaws are bolted to the handles and the overall length of the tool is 9". The handles have a stamped "Vacuum Grip" cup pattern and the entire tool has a rust resistant black finish for long lasting protection.

NEEDLE NOSE PLIERS TO FIT EVERY NEED



HIGH QUALITY NEEDLE NOSE PLIERS

These pliers are the same basic design and finish and are offered in a range of sizes. Needle nose pliers are designed to handle small objects, reach into restricted areas or coil or loop wire. Their use on objects that are too large will destroy jaw alignment. These tools have a natural steel finish with full polish and handles have the raised "Vacuum Grip" cup pattern.

(A) **No. 94 4½" Needle Nose** without cutter. Jaw length 27/32". For tiny jobs.

(A) **No. 95 6" Needle Nose** without cutter. 1 11/16" jaw length. A sturdy plier.

(A) **No. 96 7⅛" Needle Nose** without side cutter. 2¼" jaw length. A heavy duty tool.

(B) **No. 196 7⅛" Needle Nose** with side cutter. 2¼" jaw length. A dual purpose tool preferred by many mechanics.

(A) **No. 97 8" Needle Nose** without cutter. 3¼" jaw length. A real work horse.

INDUSTRIAL FINISH NEEDLE NOSE

The pliers are the same size, design, and high quality as the No. 96 and No. 196 listed at left but they have smooth handles and are polished only on the nose surfaces and on part of the handles.

No. 96C 7⅛" Needle Nose without cutter. 2¼" jaw length. Built to give long service.

No. 196C 7⅛" Needle Nose with side cutter. 2¼" jaw length. A good dual purpose plier.

GOOD PLIER CARE — LONG WEAR

Don't destroy jaw alignment or ruin cutting edges by hammering with a plier. It is safer and cheaper to use a hammer.
Never use a plier to cut a "hot" wire, the resultant hole in cutter can't be removed. Use the right size gripper plier — if you can't grip the material and keep the plier jaws parallel, then the plier is too small.
Don't use a needle nose plier to grip objects of larger diameter than the point of one of the jaws.
Avoid using pliers to do a pipe wrench job. Rocking a diagonal cutter sideways to do a tough job may twist and break the jaws.

SPECIAL PURPOSE NEEDLE NOSE

(C) **No. 497 6⅝" Bent Needle Nose.** 3 3/16" jaws. The long tapered nose slips through small openings to reach awkward jobs or around obstructions. Bent nose lets you see what you are doing. Natural steel finish on handles, semi-polished head.

(D) **No. 597 7-15/16" Pin Gripping Plier.** 3 3/16" jaw length. Matched parallel and cross grooves in the jaw tips provide a sure grip for pulling stubborn pins. Long nose reaches into recesses. Semi-polished head and natural steel finish on handles.

(E) **No. 60C 7¾" Short Needle Nose Plier.** 1 5/16" jaw length. The short jaws provide greater gripping strength at the top. Natural steel finish with semi-polished head.

(F) **No. 60R 7¾" Duck Bill Plier.** 1 5/16" jaw length, 5/16" tip width. Preferred by aviation mechanics for pulling locknut safety wires. The long, flat jaws have a fine serrating on the inside of the tips which will grip without chewing up the wire ends. Useful for many gripping jobs. Natural steel finish on handles, semi-polished head.

GOOD QUALITY GRIPPING PLIERS



INTERLOCKING JOINT PLIERS

(A) **HL-14 4" Interlocking Joint Plier** will prove especially useful on small assemblies. The interlocking grooves provide 4 parallel jaw positions from ⅛" to ½". The 30° jaw angle provides easy working action. The tool has an attractive chrome plated finish to resist rust.

(B) **HL-16 6" Interlocking Joint Plier** especially useful for small assemblies. The interlocking grooves provide 5 parallel jaw positions from 3/16" to 1". The jaws are set at a 45° angle to the handle to provide easy working action. The tool has an attractive chrome plated finish to resist rust.

LARGE INTERLOCKING JOINT PLIERS

These pliers will prove useful for many applications especially in the maintenance field. The jaws are quickly adjusted to the desired opening and each plier provides a range that will adapt it to a wide variety of jobs. Jaw teeth are machined deep to permit a good, firm bite on the work.
Handles are heavily coated with a dipped and bonded red plastic which acts as a cushion for the hands when pressure is applied. The exposed parts are chrome-plated to resist rust and give lasting satisfaction.

(C) **HL-112P 12" Interlocking Joint Plier.** Has 6 jaw positions with a maximum parallel opening of 2⅛".

(C) **HL-116P 16" Interlocking Joint Plier.** Has 11 jaw positions with a maximum parallel opening of 4¼".

(C) **HL-120P 20" Interlocking Joint Plier.** Believed to be the largest plier made, it has 11 jaw positions with a maximum parallel opening of 5½".

COMBINATION PLIERS

These modestly priced pliers are of two-position slip joint construction to permit a wide gripping capacity. The jaws provide an end gripping section with sharp, matching, parallel teeth and two curved sections with large deep cut teeth for pipe work, etc. This combination provides maximum contact for many different-shaped surfaces.

A wedge-type cutter located at the base of the jaws is cut at an angle to provide slicing action for easier cutting. Both these pliers are equipped with one bow handle designed to fit the palm and one full fashioned handle for the fingers to provide a firm comfortable grip. These units have an attractive chrome finish.

(D) **CD-46C Combination Plier 6" long.**

(E) **CD-48C Combination Plier 8" long.**

SPECIAL PLIERS FOR SPECIFIC SERVICE JOBS



Ⓐ **No. HCP-50 Keystone-Type Hose Clamp Plier.** Required for proper installation of Keystone-type clamps used on smaller diameter hoses. The clamp "C" shaped crimping section bottoms on the head of the plier and is gripped on its flats by the plier jaws. When pressure is applied, the clamp is properly tightened along its complete circumference without distortion. Built-in jaw-stops prevent possible damage to the clamp. The handles are ½" wide with rounded edges. Jaws are ½" wide, and polished. Overall length is 7¼". Black Oxide finish.

Ⓑ **No. HCP-48BP 8" Corbin Hose Clamp Plier.** 7/16" jaw thickness. Two position slip-joint . . . handles ¾" to 2" diameter Corbin hose clamps. Jaw stops keep jaws ⅛" apart. Jaws have black finish, handles have hot-dipped baked-on plastic coating for comfortable grip.

No. HCP-46BP Small Corbin Hose Clamp Plier. Same as HCP-48BP above but only 6 13/32" long for use on hose clamps on fuel lines, etc. as well as for outboard motors and hose connections smaller than ¾". Jaw stops keep jaws 1/16" apart.

Ⓒ **No. PJ-10 Lock Ring Plier** with jaws that remain parallel from closed to maximum open position. Made for quick, easy and safe lock-ring removal and replacement. Can also be used on piston rings. Operates on lever principle which provides plenty of power to remove even the most difficult lock-ring. Maximum opening is 1⅛", minimum .150". Length 10 3/16". Between handles, 3⅝".

Ⓓ **No. 70A 8⅞" Lock Ring Plier.** 5/16" tip width. Saves time and trouble when removing the horseshoe lock ring on brake shoe anchor pin. Jaw tips bend at a right angle and are serrated and indented on the outside to prevent slipping. Spring holds the jaws closed. Sand blasted natural steel finish.

No. 700A Large Lock Ring Plier. Same design as No. 70A above but 14" long. Handles lock rings on 4-speed transmissions on trucks, earthmovers, tractors, etc.

Ⓔ **No. 70B 8⅞" Lock Ring Plier.** 3/32" tip width. Similar to above but with straight tips. Works in close places for easy removal of horseshoe lock rings. Sand blasted natural finish. Spring tension closes plier.

▲ Ⓕ **No. 131A Brake Spring Plier.** A combination tool that can be used for the removal and replacement of Bendix, Lockheed and other hydraulic and mechanical brake springs. The steel hook on the jaw is replaceable if necessary. One handle has socket end for removing springs set over a post, the other has a guide for replacing springs. 13¼" long. Plated sanded finish.

No. 31-3 Extra Hook. For above plier.

Ⓖ **No. 231 Truck Brake Spring Plier** 20¼" long. This rugged tool has plenty of leverage and power for removing and replacing heavy brake shoe return springs on some models of Huck, Lockheed, Wagner, etc.

Special tempered spring hook is held in the jaw with a roll pin and is easily replaced if damaged. Plated sand blasted finish.

No. 231-3 Replacement Hook for above plier.

No. 331 Truck Brake Plier. Replace double return springs on, air brakes with wide shoes and double webs. Same as No. 231 above but fitted with cup shaped adaptor instead of a hook.

HAMMERS—FOR HEAVY BLOWS OR FOR LIGHT TAPPING



▲ Ⓐ BALL PEEN HAMMERS

Quality from start to finish. Well balanced, correctly designed and heat treated and drop forged from high grade alloy steel, they will withstand long, hard service. Handles are of second growth, well seasoned hickory, carefully turned so that grain runs full length. Securely anchored to head. Extra handles can be purchased — each comes with two metal and one wood wedge.

Hammer Complete		Extra Handle
Stock No.	Weight	Stock No.
BP-2	2 oz.	BPH-2
BP-4	4 oz.	BPH-4
BP-8	8 oz.	BPH-8
BP-12	12 oz.	BPH-12
BP-16	1 lb.	BPH-12
BP-20	1¼ lbs.	BPH-12
BP-24	1½ lbs.	BPH-24
BP-32	2 lbs.	BPH-24
BP-40	2½ lbs.	BPH-40
BP-48	3 lbs.	BPH-40

Ⓑ PLASTIC TIP HAMMERS

For work where precision finished or delicate parts would be injured by metal hammers.

The tips are tough plastic and will stand a lot of pounding without undue marring of the faces . . . tips are easily replaced when necessary. Three sizes are available. Center part of head is chrome plated.

Hammers Complete		Extra Handle	
Stock No.	Weight	Stock No.	Diam.
91-PH	½ lb.	91-PH-2	1¼"
92-PH	1 lb.	92-PH-2	1⅜"

91-PH-3A. Wood handle for above hammers.

FIBERGLAS HANDLE KITS

For use on any type of hammer. Each kit consists of a fiberglas handle, a plastic ferrule collar, curved and flat ferrule caps, tape for sealing, two tubes of "Nuplabond," stirring stick, instructions and size chart.

BPH-120 12" Handle Kit.

BPH-160 14" Handle Kit.

SOFT FACE HAMMERS

For working on metal or wood parts without damage . . . wherever pounding without marring is required. The replaceable tips are designed to resist chipping, flaking, and mushrooming. Handles are unidirectional fiberglas, made by bonding together 1,200,000 strands of glass, reinforced with polyester plastic. They are stronger than wood and are impervious to dry rot, termites, beetles, splintering, petroleum products, common industrial chemicals, high and low temperatures, fungus, and warpage. Handle grips are shock absorbing, non-slip, red plastic material, light weight.

Ⓒ **BH-232 Two Pound Hammer.** Furnished with two replaceable tips, medium and hard. A tough nylon tip available separately is designed to withstand harder use. Tips thread directly into the solid head. Head is 3⅛" long, 1⅝" tip diameter, handle is 13".

BH-232-2 Medium Repl. Tip. Furn.

BH-232-3 Hard Repl. Tip. Furn.

BH-232-4 Tough Nylon Tip. Opt.

Ⓓ BRASS HAMMERS

Two hammers with brass heads especially suited for driving bushings and gears, doing body work or work on standard and automatic transmissions. Handles (No. 91-PH3A) are of high grade, well seasoned hickory, carefully turned and attached to heads with steel and wood wedges. Handles are 11⅝" long.

BH-16 Brass Hammer, 1 lb. Size, head is 3" long, 1¼" diameter.

BH-24 Brass Hammer, 1½ lb. Size, head is 4" long, 1¼" diameter.

HANDLE BONDING KIT

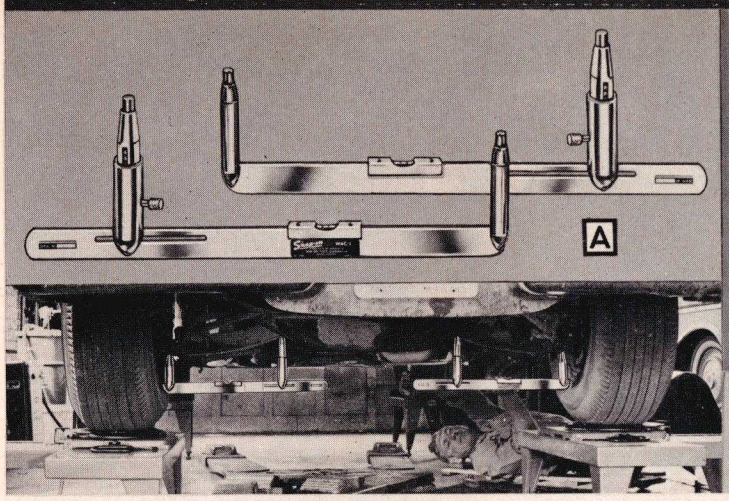
BPH-30K Replacement Bonding Material Kit. Needed when a fiberglas handle is slightly too small for the hammer head and additional material is needed to supplement the replacement kit, or when the original Nuplabond is improperly mixed. Kit includes one tube each of Nuplabond "A" and "B."

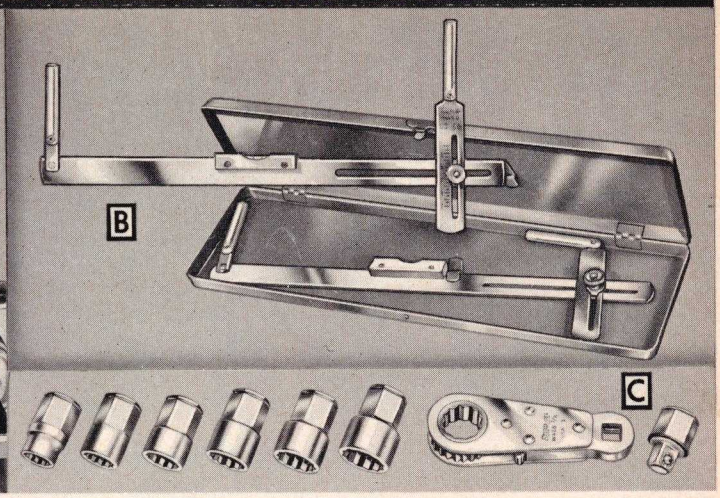
BODY BUMPING HAMMERS

These are shown with other body tools on pages 128–131.

Federal Specs: GGG-H-86C applies to Ball Peen Hammers.
GGG-P-471C covers Lock Ring and Brake Spring Pliers indicated by symbol ▲.

SPECIAL TOOLS FOR CHRYSLER BUILT CARS





TORSION-AIRE HEIGHT LEVEL AND RIDE CONTROL GAUGE SETS

Ⓐ **WAC-2B Magnetic Torsion Bar Height Gauge Set.** Consists of two WAC-1B magnetic gauges in Styrafoam package. These fine gauges are quality built with a sturdiness that will give you long and accurate service. The aluminum magnet arms are long and tapered and are fitted with ½″ diameter magnets that will fit the various models of Chrysler and GMC products with torsion-aire suspension. The leveling bubble vial is easy to see and is attached to a 20″ polished aluminum shaft. One magnet holder swivels and the adjustable height magnet holder slides to the correct position. Adjustments are made with the gauges in position.

WAC-1B Individual Magnetic Gauge.

Ⓑ **WA-22-B Magnetic Torsion Bar Height Gauge Set.** Needed for all Chrysler and GMC products having torsion-aire suspension. The two gauges allow a mechanic to check both sides of suspension without crawling back and forth under car to change gauges. Individual gauges consist of an 18″ steel chrome plated bar with magnet arm at each end. A bubble level, mounted on the steel bar indicates when height is properly adjusted.

This set consists of two WA-20 gauges packed in a KRA-283 Metal Box. The box affords a convenient method of storage and helps to protect the gauges from damage. Complete instructions are included in each set.

WA-20 Individual Magnetic Gauge.

CASTER-CAMBER ADJUSTING TOOLS

Ⓒ **WA-308 Caster-Camber Adjusting Wrench Set.** Consists of the WA-28 Torque Adaptor Wrench, six special hex drive sockets to fit the wrench and an adaptor which adapts the wrench to any ½″ square drive socket. Individual items listed below.

WA-28 Torque Adaptor Wrench. 5″ long with a ½″ square drive opening in the handle and a ⅞″ double hex reversible ratcheting "Loxocket." When used with the TQ-150 SNAP-ON Torqometer it provides an accurate method of adjusting without overstressing.

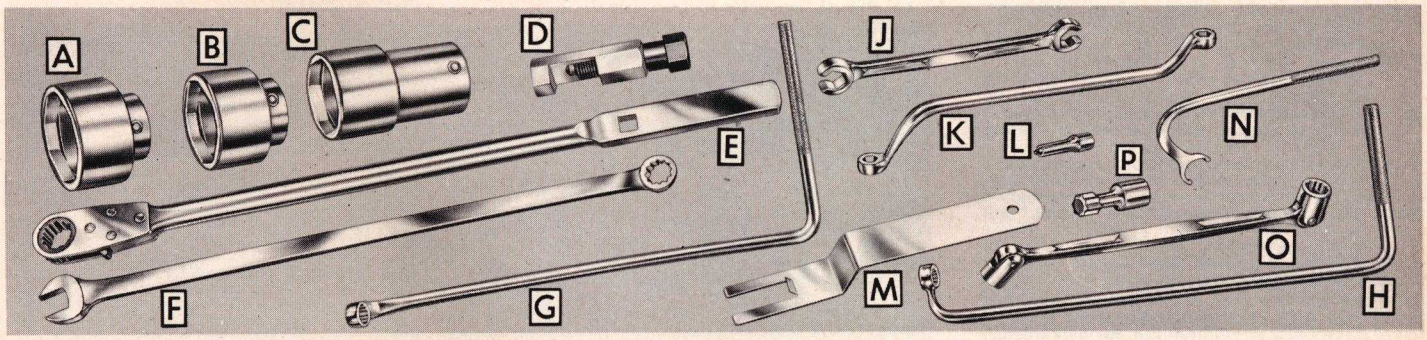
Special Double Hexagon Sockets

WA-28-20 Socket ⅝″ hex.
WA-28-22 Socket 1 1/16″ hex.
WA-28-24 Socket ¾″ hex.
WA-28-26 Socket 1 3/16″ hex.
WA-28-28 Socket ⅞″ hex.
WA-28-30 Socket 1 5/16″ hex.

WA-28-8 Adaptor. ⅞″ hex end fits the WA-28 Wrench, drive end fits any ½″ square drive socket.

WA-308-B Set. Above set in KRA-40 Metal Box.

KRA-40 Metal Box. Not shown, but available as optional container for the WA-308 set. Size: 9½″ x 5½″ x 2″.



Ⓐ **S-9479 Special Suspension Ball Joint Socket.** For DeSoto and Chrysler. 2⅛″ diameter, ¾″ square drive.

Ⓑ **S-9365A Special Suspension Ball Joint Socket.** For Dodge and Plymouth. 1⅞″ diameter, ¾″ square drive.

Ⓒ **S-6302 Special Suspension Ball Joint Socket.** For Valiant. ¾″ square drive.

Ⓓ **S-8679B Front End Suspension Tool** for Dodge, Plymouth, Chrysler, DeSoto and Dart. Minimum length 4¼″ to 5½″ maximum. Used when replacing spindles, upper and lower ball joints coil springs and when replacing or rebushing upper control arms.

Ⓔ **S-9839 Caster-Camber Torque Adaptor Wrench.** 16⅞″ long, has ½″ square drive opening 4″ from end of handle and ⅞″ double hex reversible ratcheting "Boxocket" on other end. When used with SNAP-ON Torqometer it provides a most accurate method of adjusting. The actual torque reached will be twice the dial reading shown. The six special sockets shown in the above WA-308 Set also are used with this wrench. Chrome plated.

Ⓕ **S-9465A Fluid Drive Wrench.** Combination "Boxocket" and open-end services the flange stud nuts that hold the fluid drive assembly to the crankshaft flange. Both openings are ⅝″, overall length 17″.

Ⓖ **S-9476A Distributor Wrench.** ½″ double hex for 1954–67 8 cylinder Chrysler, DeSoto and Dodge. Has longer shank to clear wires around distributor. Air filter must be removed before bolts can be serviced. 12″ long, 5″ handle.

Ⓗ **S-9467B Chrysler Line Distributor Wrench.** A 7/16″ double hex "Boxocket" for loosening or removing the distributor on Chrysler, Dodge, DeSoto and Plymouths. Reaches around distributor to do a fast job. Length from handle to wrench head is 11 23/32″.

Ⓙ **RXH-1517 Flare Nut Wrench.** This wrench has "Boxocket" openings of ⅜″ and 15/32″ with slotted walls. The 15/32″ end will fit the hydraulic and oil line fittings of Chrysler cars. Overall length 6⅜″.

Ⓚ **B-1460B Brake Wrench** for 1955-63 Chrysler products. A "Boxocket" with ⅜″ and 7/16″ single hex openings. ⅜″ for brake bleeder valves, 7/16″ for brake shoe eccentric bolts. The 7/16″ end is offset to clear drag link arm and recessed plate on front wheels. 9½″ long.

Ⓛ **S-9458 Dash Nut Socket.** A pronged socket to fit panel switch and control nuts on Chrysler line cars. Outside diameter of nose 5/16″, length 1⅝″. ¼″ square drive.

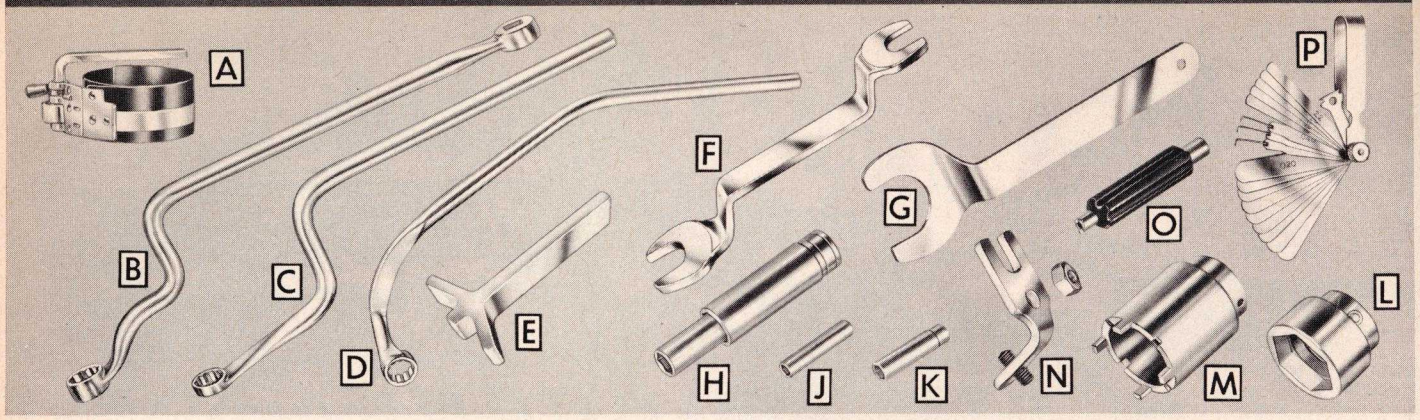
Ⓜ **S-9478B Door Handle Tool.** For 1955–1962 Chrysler line cars using new type spring clip which cannot be disengaged with any tools previously available. The two prongs are 5/64″ thick and are tapered for easy entry between handle and plate. A raised wall contacts the spring clip forcing it out of the shaft groove to release handle.

Ⓝ **S-9481A Adjusting Nut Wrench** for emergency brake on all old and new model Chrysler products having an internal expanding hand brake adjustment. Designed to get past all obstructions such as the rear cross member and do the job quickly and efficiently. Chrome plated finish.

Ⓞ **S-8693 Tappet Adjusting Wrench** for use in adjusting the overhead valves on both Ford and Chrysler products. Heads of the wrench are very flexible to "ride" with the tappet. Extra long handle provides leverage needed and allows mechanic to keep his hands away from hot engine. Socket heads have extra thick walls, specially heat treated to resist wear. Has 7/16″ and ½″ double hex openings. Head diameters are 23/32″ and 25/32″. Overall length is 9⅜″. Chrome plated.

Ⓟ **S-8186 ½″ Double Square Male Socket.** For servicing differential drain plugs on 1960–65 Plymouth Valiant and Dodge Dart also oil drain plugs on 1961–65 Oldsmobile and cylinder head bolts on some International Trucks. ½″ square drive.

SERVICE TOOLS FOR GENERAL MOTORS CORP., CARS & TRUCKS



SPECIAL TOOLS FOR CHEVROLET AND CORVAIR

Ⓐ **RCL-30 Piston Ring Compressor.** Designed for use on the new type pistons used in V-8 engines where the distance from the top of the top ring to the bottom of the bottom ring is only one inch. Main belt is 1½" wide with ½" wide tension band of fine spring steel. Clutch grip holds the band compressed until you release pressure. Adapts to a 2½"-5" range of piston sizes.

Ⓑ **S-9545 Caster-Camber Torque Adaptor.** For large, 348 cubic-inch Chevy engine (except 1959) as well as other 1955–67 Chevys. Also for 1964-67 Chevelle, Pontiac Tempest 6 & 8 cylinder, Buick Special and Olds 85. Has 1 1/16" double hex "Boxocket" and ½" square drive to take our TQ-150 "Torqometer." Extra leverage cuts torque reading in half. 14¼" long, chrome plated. Its special shape and offset allows it to go under generator, past steering shaft and other obstructions.

Ⓒ **S-6203 Caster-Camber Wrench.** For 1960–67 Chevy Corvairs. The length and special offset allows tool to be inserted under the fender to reach the adjusting bolt. Wrench has a 9/16" double hex "Boxocket" tapered to provide easy entry over the nut. Length is 10½" and the tool is Cadmium plated.

Ⓓ **S-6201 Corvair Starter Wrench.** For servicing upper starter bolts on 1960 models. Wrench has 9/16" double hex "Boxocket." Handle at wrench end is thinner and curved to provide clearance and to fit around the starter. Offset clears pan and other obstructions. 12 3/8" long. Chrome plated finish.

Ⓔ **S-9604 Upper Control Arm Support Bracket for Chevy II.** Replace ball joints and shock absorbers on Chevy II faster and safer with this handy unit. It prevents the front spring from stretching out when the car is raised, making the ball joint and shock absorber more readily accessible and more easily removed. It can be used on both sides of the car. Tool is 4 11/16" long, cadmium finish.

Ⓕ **S-9552A Vacuum Modulator Control Wrench.** For Chevrolet and Corvair. The special design of this wrench overcomes the limited working area problem to enable fast, efficient service. The narrow accessibility is no problem for this tool. Its 3/16" thin, offset heads provide plenty of working clearance. Wrench openings are 7/8" and 1" to handle both sizes of nut encountered. Tool is 8½" long, chrome finish.

Ⓖ **S-9548 Clutch Gear Bearing Retainer Wrench.** For removing clutch gear retainer and oil slinger nut on Chevrolets and other GM products. Conventional tools easily damage this nut. This wrench prevents damage. 3/32" thick with 1 5/8" opening. Overall length 8½"

Ⓗ **S-6205 9/16" and 13/16" Single Hex Socket.** For tightening and torquing head bolts on Chevy Corvair. Two different size nuts are used and this socket makes it unnecessary to change sockets during operation. An internal spring keeps the 9/16" hex socket extended and retracts under pressure to allow the 1 3/16" hex opening to be used. Has ½" square drive.

Sockets for Plastic Nuts. When self tapping screws project through the metal such as in the Chevy trunk or trim, the sharp points are protected by plastic nuts. Standard sockets are not broached deep enough for loosening or tightening the nuts and will damage them. These two sockets are made for this purpose, broached extra deep. Have ¼" square drive.

Ⓙ **S-9549** 5/16" Hex, extra deep socket.

Ⓚ **S-9550** 3/8" Hex, extra deep socket.

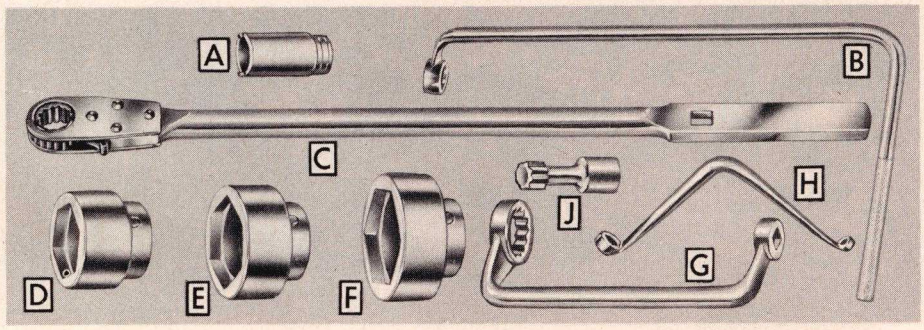
Ⓛ **S-6202 Socket** for servicing Corvair ball joint suspension. Has 1 5/8" single hex opening and ¾" drive. For use in removal and replacement of front end lower ball joints. Diameter 2½", 1¼" long.

Ⓜ **SS-8695 Lug Socket.** For removing front wheel assemblies on Chevy and Ford 4-wheel drive trucks. Lugs fit into recesses and slots fit over 3/32" pins in the nut. ½" square drive. A must for this job.

Ⓝ **S-9603 Valve Spring Compressor** for removing and replacing valve springs and valve oil seals on V-8 Chevys, some Pontiacs, Ford Fairlane 500, Ford Galaxy and late model Chevy 6 cylinder engines. Can also be used on some GMC trucks. Used in conjunction with our MT-26-13A or 14A adaptors.

Ⓞ **MD-17 Distributor Terminal Tool.** For the removal, replacement and adjustment of points on Chevy 6-cylinder, Delco-Remy distributors. Black, 7/8" diameter, plastic handle has an 11/32" socket at one end and a pronged socket at the other. Will also prove useful for tune-up work, ignition work, under-dash repairs, on radios, heaters, wherever an 11/32" nut is used. 4" long.

Ⓟ **FB-379 Chevrolet Feeler Gauge.** Contains nine 3 3/8" blades in thicknesses of .006, .007, .008, .010, .012, .013, .015, .016, .020; five finger blades .016, .018, .019, .020, and .022; three wire gap gauges .032, .035 and .040 and an electrode bender.



SPECIAL TOOLS FOR BUICK AND OLDSMOBILE

Ⓐ **S-9551 Windshield Wiper Socket.** 3/8" square drive "Ferret" socket wrench for use on inner retainer nut and outer escutcheon nut on windshield wipers of Buick, Ford, Lincoln, Mercury and other cars. Also fits inner nut of Cam-O-Matic wipers. 2 1/8" long, chrome plated finish.

Ⓑ **S-9838 Distributor Wrench** with 9/16" double hex for turning distributor hold-down bolts on 1961–66 Buick Special and V-6 Special and Olds F-85. Shaft of wrench is angled to clear obstructions. 11 1/8" long.

Ⓒ **S-9837 Caster-Camber Torque Adaptor** for 1961–63 Buick Special, Olds F-85 and some Chevys. Has 1 1/16" double hex "Boxocket" that can be reversed without removing wrench from fitting. A ½" square drive is located 4" from other end of handle to take TQ-150 "Torqometer." When using this tool the bolt tension reached will be twice the amount shown on Torqometer dial. Tighten until reading is one-half the desired amount. Length 19¾".

Ball Joint Sockets for removing and replacing ball joints on 1961 General Motors products. Have ¾" square drive female opening to take any ¾" drive handle.

Ⓓ **S-8179** 1 9/16" hex opening for front suspension ball joint on 1961–62 Buick Special and Olds F-85.

Ⓔ **S-9835** 1 7/8" hex opening for front end **upper** ball joint of larger '61–62 Buicks.

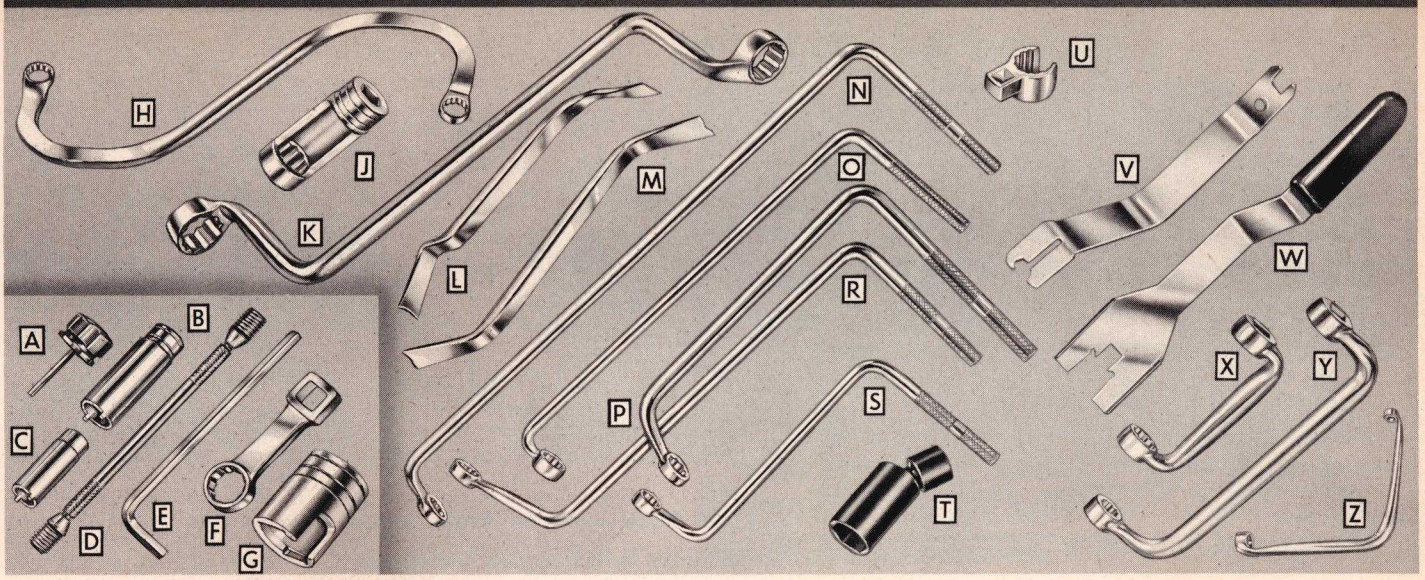
Ⓕ **S-9836A** 2 1/16" hex opening for front end **lower** ball joint on larger '61–62 Buicks.

Ⓖ **S-8178A Toronado Pitman Arm Wrench.** Works in the limited space to service or retorque the pitman arm nut. Use with SNAP-ON TQ-250 Torqometer to torque to manufacturer's specifications (220 ft. lb.). 8½" long, wrench size 1 5/16". Chrome plated.

Ⓗ **S-8184 Brake Bleeder Wrench.** Required for brake bleeder fittings on all GM cars. Wrench sizes are 3/8" and 5/16" single hex on 4" arms.

Ⓙ **S-8186 ½" Double Square Male Socket.** For servicing oil drain plugs on Oldsmobiles; also differential drain plugs on Plymouth Valiant and Dodge Dart, and cylinder head bolts on some International Trucks. ½" square drive.

SERVICE TOOLS FOR GENERAL MOTORS CORP., CARS & TRUCKS



(A) SDA-4 Point Adjustment Tool. A 1/8" Hex Bit for adjusting points on all Delco-Remy window-type distributors with external adjustment. The SNAP-ON MT-415B or similar dwell meter should be used when making the adjustment. Disconnect thermo-unit wire to permit access to housing window. Insert bit into adjusting screw and turn until dwell meter indicates proper degree. 2" overall length. 1 1/4" shank.

(B) S-9540A Windshield Wiper Socket. For General Motors cars. This pronged socket fits the outer escutcheon nut and the inner-retainer or spacer nut. Socket is 2 3/8" long and fits over the wiper shaft. Also removes speed nuts on rear brake drums of most cars with flange-type axles. 3/8" square drive.

(C) S-9605A Retainer Nut Socket. 1/4" square drive pronged socket designed to fit over the longer shafts and larger threads on light switches, windshield wiper controls and radio trim nuts on 1966 and later GM cars and trucks. The overall length is 1 3/4". The inside diameter of the socket end is 1/2" for a depth of 11/16", and total bolt clearance depth is 1 3/8". Can also be used on older models of GM cars and trucks. This effective tool for turning retainers and trim nuts saves time and minimizes the possibility of damage.

(D) GA-55A Head Locator. Remove head bolts and screw the dowels into bolt holes by means of the center shaft. Shaft unscrews itself when dowel is seated. Tapered tops of dowels extending above cylinder block serve as hinges in removing, and as locators when returning the head. The dowels hold the gasket in position to line up with the bolt holes. Shaft is 5" long. GA-55A consists of the shaft and two each of both dowels listed below.

GA-55-1 Shaft only.

GA-55-2 Dowel 7/16"—14 thread.

GA-55-3 Dowel 1/2"—13 thread.

(F) AWL-8 Caster-Camber Adjustment Wrench. For the hex head set screw adjustment on most GM cars. Wrench size is 1/4" with a length of 2 1/4". Handle length is 4 7/8".

(F) S-6206 Caster-Camber Adjusting Wrench for Corvair Van, Pick-Up, Greenbrier and Pontiac Tempest. 3" long with 11/16" double hex at one end and 1/2" square at other. Used with our 5" and 10" extension bars (SX-5 or SX-10) and our 15" or 18" nut spinners (SN-15L or SN-18L) is provides an easy method of turning the adjusting nuts.

(G) S-8187 Brake Cylinder Vacuum Check Valve Socket. This special socket enables fast and proper servicing of the vacuum cylinder check valve used in the power brake units of Oldsmobile, Pontiac, and Buick. Due to the location and plastic construction of the check valve, it is virtually impossible to service properly without a special tool of this nature. This socket efficiently handles both the angled and straight-type check valves encountered, and eliminates the possibility of damaging them. The tool has 1/2" square drive and a rust resistant, attractive chrome plated finish.

(H) S-9606 Door Hinge Wrench. 1/2" double hex boxocket with special "S" shape to provide needed working clearance. Lets you adjust door hinge bolts on Chevy II, Chevelle, Olds F-85, Pontiac Tempest and Buick Special. Tool is 11" long, chrome plated.

(J) S-8183 Delcotron Pulley Nut Socket, for torquing Delcotron alternator pulley nuts on all 1963–67 General Motors cars except the Corvair, also Ford products. Use with our 1/2" square drive "Torqometers" such as the TQ-150. Use a 5/16" hex head wrench and a 12" pipe extension to hold the shaft steady. Cut-away part of socket allows access. 15/16" double hex opening, 3 1/4" long.

(K) M-1310 Valve and Injector Wrench. 7/8" and 15/16" double hex Boxocket for GMC and Cummins Diesel engines. Wrench is deeply offset on both ends to provide clearance over the manifold and seat easily on the lock nut.

(L) B-1461 Brake Adjusting Tool for use on 1960–67 Corvair, Buick Special, Olds F-85, Rambler, and Tempest. One tang set at 29° with a wheel finder radius for rear brakes, the other tang set at 45° with special curve to clear ball joint on front brakes. 8 1/4" long.

(M) B-1462 Brake Adjusting Tool for cars and trucks with trailing arms such as 1958–67 Chevy trucks, GMC trucks, standard Buick, Olds and Pontiac. Each tang set at 64° but in opposite directions for use on right or left hand side of car. 8 3/4" long.

(N) S-8176 Distributor Wrench for 1956–67 Pontiacs and Oldsmobiles. Has 9/16" double hex. Reaches in between the distributor and fire wall on these cars where standard tool will not work. 16" long. Chrome plated.

(O) S-8177A Distributor Wrench. Has 9/16" double hex "Boxocket" for use on 1963 Pontiac Tempest. Overall length 12 1/4", head thickness is 3/8". Chrome plated.

(P) M-3515 Distributor Wrench. Special 9/16" double hex boxocket for turning distributor hold-down bolts on GMC V-6 and V-8 trucks where limited access prevents use of standard wrenches. Tapered head helps provide clearance to seat over the bolt. Wrench is 8 1/4" long. Chrome plated.

(R) S-9832B Buick and V-8 Chevy Distributor Wrench. 9/16" double hex Boxocket for 1953–67 models. 10" handle clears obstructions, 4 1/2" offset handle. Head tapers from 25/64" to 1/4" at outside edge making it easier to remove wrench after nuts are loosened. A time saver.

(S) S-8173 Olds, Buick, Cadillac and Packard Distributor Wrench. 1/2" double hex "Boxocket" opening. The long handle affords 6 11/16" clearance over obstructions putting your hands out in the open where there is less danger of bumping the distributor during the final tightening. This tool will also prove useful on many other hard to reach jobs on various cars.

(T) SIMB-280A "Flexocket" with 7/8" single hex opening and 1/2" square drive. For use in making caster-camber adjustments on all 1961 through 1964 Oldsmobiles except the F-85. When some of the shims have been removed or are missing on these cars the added bolt clearance depth of this socket allows unit to seat properly on adjusting nut. Overall length is 3 5/16". Black finish.

(U) S-8185 23/32" Flank Drive Double Hex Crowfoot Wrench. Permits removal and replacement of turbine drive transmission cooler lines on 1967 General Motors products. One half of the flarenut fitting is threaded into the housing and partially recessed preventing use of standard wrenches. This tool is used with suitable 3/8" square drive handle and extension to hold this part stationary while the other part is turned with a standard crowfoot wrench, handle and extension. This prevents twisting or possibly damaging the cooler lines. Head diameter 1 1/32", depth 11/16", length 1 7/16".

(V) S-9538A Door Handle Spring Remover. Designed especially for General Motors (except Cadillac) cars through 1967, it will work just as efficiently on Ford products and some other cars.
The straight open end opening is used for 1953–64 GM cars with the type door handles on which the inside flange construction of the handles was changed. The straight end of the S-9538A is inserted *under* and *parallel* to the handle. When the spring clip is engaged by the ends of the tool, a straight push snaps the spring out. For older models use the hook end.

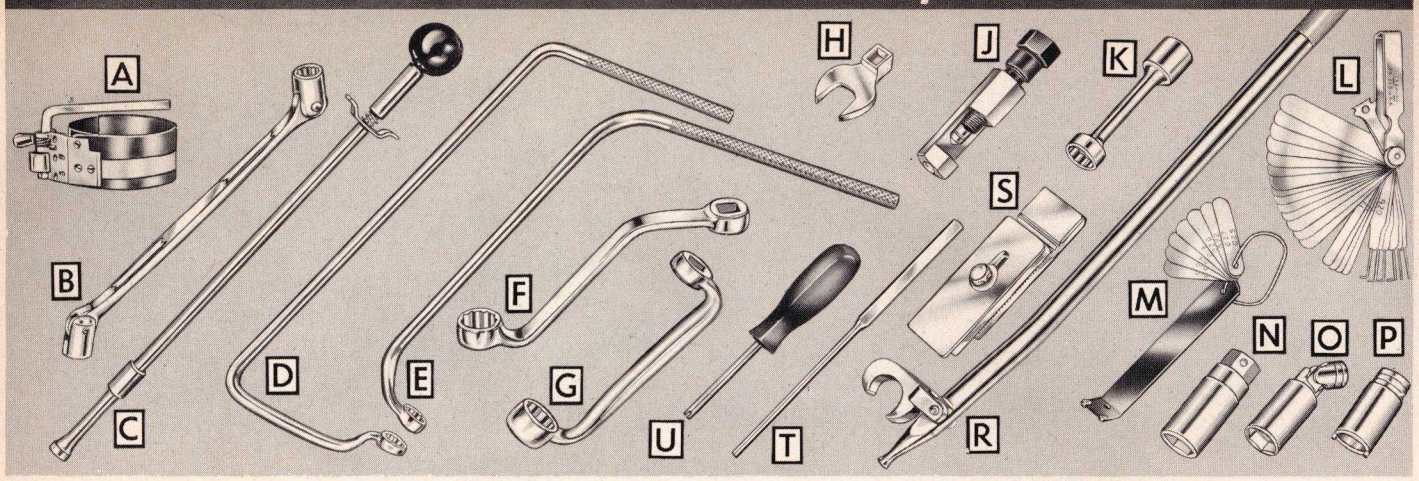
(W) A-159 Door Handle Tool for General Motors Products (except Cadillac) and Ford Products through 1966. Tool is inserted under and parallel to handle, the tips of the tool engage spring clip and spread it just enough to permit removal of handle. 10 7/8" long with 2 1/4" wide shovel end.

(X) M-3502 Cylinder Head Wrench. For use on GMC diesel engines and GMC V-6, V-8 and V-12 gasoline engines. The 5/8" double hex opening is directly in line with the 1/2" square drive to permit proper torquing with a TQ-150 "Torqometer" or with any 1/2" square drive "Torqometer." 4 1/2" long, chrome plated.

(Y) M-3504 Cylinder Head Wrench for GMC V-6 and V-8 Diesel engines. For use with any of our 1/2" square drive "Torqometers." Has 9/16" double hex wrench opening, directly in line with the 1/2" square drive. Wrench end is 29/32" diameter. 8 1/8" long.

(Z) B-1463 Brake Bleeder Wrench. Has 1/4" and 3/8" single hex openings for use on the smaller type fittings on the majority of General Motors, Ford and other new Compacts. "L" shaped with 1/4" end slightly tapered to allow for clearance when removing bleeder screw in bleeder valve. Heads are offset thus making it unnecessary to remove wrench from valve fitting in order to attach hose.

SPECIAL TOOLS FOR FORD MOTOR CO., CARS & TRUCKS



The Right Tool — In the Right Place — At the Right Time Can Make Otherwise Difficult Jobs Both Easy and Profitable

The special tools shown on this and other pages have been developed to help professional mechanics handle specific jobs with time and labor saving efficiency. In many cases it is next to impossible to do the job any other way, in others the use of standard wrenches and tools could involve difficult, time-taking and perhaps hazardous methods. Using tools properly designed for the job is one sure way to make your work easier and more profitable.

Ⓐ **RCL-30 Piston Ring Compressor** for Ford, Mercury and Lincoln and most other '55-62 V-8 engines where distance from top of top ring to bottom of bottom ring is not more than 1". Main belt is 1½" wide with ½" tension band. Clutch grip holds band in compressed position. Tool adapts to pistons from 2½" to 5" dia.

Ⓑ **S-8693 Tappet Adjusting Wrench.** A Flex-head wrench designed specifically for adjusting overhead valves on Ford and Chrysler products. The 7/16" and ½" double hex wrench openings have extra thick walls, specially heat treated to resist wear from adjusting the hardened self-locking adjusting screws. The heads are very flexible to ride with the tappet. The tool is 9⅜" long and provides hand clearance from hot engines.

Ⓒ **S-8690 Hydraulic Tappet Tool.** Designed for removing the hydraulic tappets on 1958–67 Fords and a majority of other cars. Where an accumulation of varnish or other deposits prevent removal with a magnet, this tool will prove extremely useful, removing the tappets quickly and easily. It is an expanding collet type tool, a plastic knob at one end operates the expanding collet at the other end. Two extensions or "ears" near knob enable user to keep pressure applied. Overall length is 14¼", net weight is 7 ounces.

Ⓓ **S-6405 Distributor Wrench** for Ford Econoline Van, Ford Falcon and Comet. Specially formed to clear all obstructions. Has ½" special offset "Boxocket." Overall length is 11⅜". Chrome finish.

Ⓔ **S-8564B Distributor Wrench** for making adjustments easily and safely on Lincoln and 1954 through 1967 Ford and Mercury. The handle is offset at 110° angle to clear obstructions such as coil, distributor leads, etc. thus minimizing danger of shocks. Provides faster, more efficient service. Has double hex ½" opening at right angle to shank to clear wires and tubes. Overall length 11⅝".

Ⓕ **S-8686A Caster-Camber Wrench.** ¾" double hex. For 1957-64 Ford, 1957-64 Mercury, and 1960 Edsel. Has double bend to provide clearance. ½" square drive designed to receive TQ-150 "Torqometer." Set Torqometer dial at one-half of desired torque.

Ⓖ **S-8684A Cylinder Head Wrench.** Needed for the larger engines used on Edsel, Mercury and 1958–67 Lincoln. Use with a TQ-150 or other ½" square drive torque wrench. Overall length is 5¾". Chrome finish.

Ⓗ **S-8696A Crowfoot Wrench** for servicing the vacuum control unit on Ford Product transmissions. Has a ¾" open end. To be used with either the FX-6 6" or FX-11 12" Extensions and a Ferret Ratchet or Torqometer. Has ⅜" square drive. Is 2⅝2" long.

Ⓙ **S-8679B Front End Suspension Tool** for use on Ford and Mercury, Lincoln, Dodge, Plymouth and DeSoto automobiles. Has been designed to have a minimum length of 4½" and a maximum length of 5½". This allows it to be used for the wide line of cars listed above. It is used when replacing spindles, upper and lower ball joints, coil springs and when replacing or rebushing the upper control arms.

Ⓚ **S-8694 Cylinder Head Wrench** for torquing certain hard-to-reach head bolts on 1962-67 Ford Fairlanes and other models which have 221 cubic inch engines. The 1 1/16" double hex wrench opening is directly in line with the ½" square drive. This permits a TQ-150 "Torqometer" to be attached, keeping it in line with the head of the bolt to provide accurate torquing. Overall length is 4", outside diameter 1 5/16". Chrome finish.

Ⓛ **FB-359 Ford Feeler Gauge.** Contains four spark gap bent wire feelers, .025, .028, .030, .035; two straight wire feelers for voltage regulator cutout .017, and .030; five ignition finger blades .013, .015, .016, .020, .025; fourteen stepground blades .010-.012, .011-.013, .012-.014, .013-.015, .014-.016, .015-.017, .016-.018, .017-.019, .018-.020, .019-.021, .021-.023, .023-.025, .024-.026, .025-.027, and an electrode bender.

Ⓜ **FB-308 Step Feeler Gauge Set.** Pat. No. 2,817,151. For valve adjustments on Ford 6's and V-8's, Mercury and Ford trucks using Lincoln V-8 engine without hydraulic valve lifters.

Handle is bent to clear exhaust manifolds . . . no need to bend the blade. Raised nub in the handle spring clip engages the blade hole and holds the blade securely. Blades are 2" long with a 9/16" stepped end in following sizes: .008-.010, .013-.011, .014-.016, .015-.017, .017-.019, .018-.020, .020-.022, .025-.027.

Ⓝ **S-9704D Spark Plug Socket.** 13/16" (20.6 mm.) single hex socket fitted with a rubber insert to protect the plug. Rubber insert center hole grasps the knurl on the spark plug and centers it in the socket. Ribbed exterior holds the insert tightly in the socket. ⅜" square drive and ⅝" milled hex.

Ⓝ **S-9705 Spark Plug Socket.** 13/16" (20.6 mm.) Single hex socket. Same as the S-9704D but has ½" square drive and ⅞" milled hex.

S-9704A-2 Rubber Insert only. Fits both the S-9704D and S-9705 sockets.

Ⓞ **S-9704A-FU Spark Plug Socket.** 13/16" (20.6 mm.) Flank drive, single hex. Use with speeder handle for fast spark plug service especially where obstructions occur. A rubber insert grips the spark plug firmly to minimize chance of dropping or damaging it. ⅜" square drive, chrome finish.

Ⓟ **S-9551 Windshield Wiper Socket** for use on Ford, Lincoln, Mercury, Buick and other cars. Has ⅜" square drive and is used on the inner retainer or spacer nuts and outer escutcheon nut. Will also fit the inner nut of Cam-O-matic wiper. 2⅛" long, chrome finish.

Ⓡ **WA-171A Caster-Camber Adjustment Tool.** Designed for use on Ford, Galaxie and Mercury cars. Slotted openings are provided in the car frame where the inner upper control arm shaft is bolted and ⅜" holes are drilled in the frame next to the shaft bolts just to accommodate this type of tool. The hook is placed over the upper suspension arm inner shaft and the tapered end is inserted into either the front or rear ⅜" hole. After loosening the shaft bolts, both caster and camber are adjusted by moving the shaft in or out as needed with the tool.

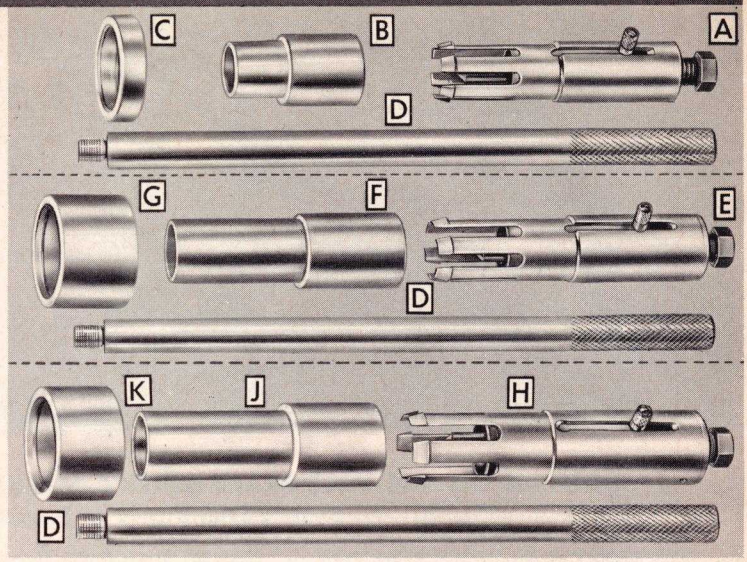
For caster adjustment, move either the front or the rear of the shaft as necessary to increase or decrease the caster angle. For camber adjustment, move both the front and rear of the shaft as necessary to increase or decrease the camber angle. Tighten both bolts to retain the adjustment. Tool is 18" long and 1 1/16" diameter. Knurled handle provides a good grip. Tool is chrome plated.

Ⓢ **S-8697 Upper Conrtol Arm Serration Breaker Tool.** Needed to break loose the serrations on the upper control arm shaft from the frame when making caster-camber adjustments on the Ford Fairlane. The adjustable length of this tool adapts it to varying job requirements and eliminates the need for a set of differnet size tools.

Ⓣ **PPC-107L Long Drift Punch,** has straight section 4½" long for disassembly work on Ford standard 3-speed transmissions thru 1967 models. Used to drive out long retaining pin that holds counter shaft and reverse idler shaft. Overall length 8".

Ⓤ **S-6404A Brake Spring Tool,** for removing and replacing beehive-type brake shoe retainer springs used on Bendix-type brakes. Falcon, Comet and Lancer have this type of spring. The tip of this screwdriver-type tool is slotted to fit the retainer spring bracket. Downward pressure and a slight twist will remove or replace the spring. 6¼" long.

BUSHING PULLERS AND DRIVERS FOR FORD PRODUCTS



These tools provide a safe, fast method of pulling and replacing the bushings and grease seals on the various cars made by the several divisions of the Ford Motor Company. They eliminate makeshift methods that could result in unnecessary damage to the car.

Bushing Pullers The jaws are inserted through the grease seal and between the bushing and the shaft. The spring tension of the jaws expands them so that the hook ends grip behind the bushing and they are held securely in this position by means of a sliding tube to give a slip-proof pulling grip. Turning the screw with a wrench easily removes both the bushing and the oil seal.

Bushing Drivers Used to install new bushings and oil seals the safe, easy way. The complete tool consists of a driver head and oil seal driver adaptor and a long driver handle. The handle screws into the driver head, the bushing is placed on the other end of the head and is driven into the shaft housing. A few light hammer blows on the handle does the job. The adaptor is then slid onto the driver head and is used to seat the oil seal in position. The adaptors are reversible to handle either type of oil seal used.

First Group for 1960 and later Falcon and Comet Cars

Ⓐ **S-6401A Puller Tool**

S-6402A Bushing Driver Set, consists of the following three parts:

Ⓑ **S-6402-1** Bushing Driver Head

Ⓒ **S-6402-2A** Oil Seal Adaptor

Ⓓ **S-8673-2** Driver Handle

Second Group for 1949 and later Ford and Mercury passenger and some 1958 and later Chevrolet cars with smaller bushings.

Ⓔ **S-8672D Puller Tool**

S-8673B Bushing Driver Set, consists of the following three parts:

Ⓕ **S-8673B-1** Bushing Driver Head

Ⓖ **S-8673B-3** Oil Seal Adaptor

Ⓓ **S-8673-2** Driver Handle

Third Group for 1955 and later Ford Station Wagon, Thunderbird, Mercury, Lincoln and 1958 and later Ford passenger cars and Edsel with large type bushings.

Ⓗ **S-8687A** Puller Tool

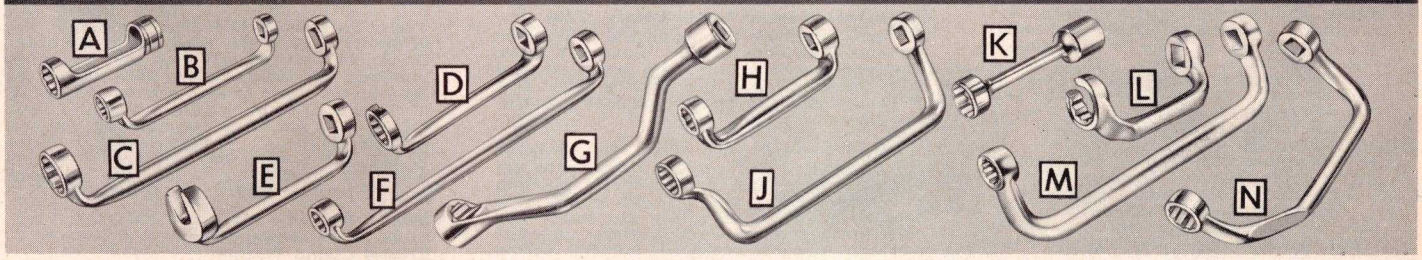
S-8688A Bushing Driver Set, consists of the following three parts:

Ⓙ **S-8688A-1** Bushing Driver Head

Ⓚ **S-8688A-3** Oil Seal Adaptor

Ⓓ **S-8673-2** Driver Handle

CYLINDER HEAD WRENCHES FOR CARS—TRUCKS—TRACTORS



Ⓐ **S-8677 Ford Head Bolt Adaptor.** This $1\frac{1}{16}$" double hex adaptor is used with an SX-3 extension bar and the TQ-150 "Torqometer" for torquing head bolts close to the firewall on Ford and Mercury V-8's.

An SX-3 extension must be used as a 2" or 5" will not work in the space provided. The head bolts requiring this adaptor, are the No. 7 on the left hand bank and the No. 9 and No. 10 on the right hand bank. The No. 7 head bolt is back against the firewall under the rocker arm shaft. The No. 9 bolt is under the rocker arm shaft and the No. 10 is the lower bolt close to the firewall.

The S-8677 will work on all V-8 models with or without power brakes and on all models with the redesigned right hand exhaust manifold. $3\frac{1}{4}$" long with a $\frac{31}{32}$" outside diameter and a $\frac{1}{2}$" square drive.

Ⓑ **S-8684A Cylinder Head Wrench.** Needed for John Deere and Oliver Tractors and for the larger engines used on Edsel, Mercury and 1958-67 Lincoln. Has $1\frac{3}{16}$" double hexagon "Boxocket" opening. Use with TQ-150 or other $\frac{1}{2}$" square drive torque wrench. $5\frac{3}{4}$" long, chrome plated.

Ⓒ **S-4276A Cylinder Head Wrench.** Services head bolts on Mack truck gasoline and diesel engines and also Massey Harris gasoline engine model 44-55. Also cylinder head nuts on series 500 Case diesels except those under the water manifold. The $\frac{7}{8}$" double hexagon Boxocket end is $1\frac{3}{16}$" in diameter and $\frac{1}{2}$" deep to provide sufficient strength for the job yet give the necessary clearance. Can be used with any $\frac{1}{2}$" square drive wrench handle. Overall length of $8\frac{3}{8}$" puts the handle end out in the open above the rocker arms.

International Truck Cylinder Head Wrenches. While each of the two following wrenches have $\frac{3}{4}$" openings the two different styles are both needed in order to service all the head bolts on overhead valve engines in International trucks. Use with any $\frac{1}{2}$" square drive handle or "Torqometer."

Ⓓ **M-4380 I.T. Cylinder Head Wrench.** $\frac{3}{4}$" double hex opening. Wrench wall is grooved to clear washer on the rocker arm. Reaches countersunk head bolts. $5\frac{1}{16}$" long.

Ⓔ **M-4379 I.T. Cylinder Head Wrench.** $\frac{3}{4}$" open end wrench. Overall length $5\frac{3}{32}$".

Ⓕ **S-8164A $\frac{5}{8}$" Double Hex Boxocket.** Has $\frac{1}{2}$" square drive. Services Rambler cylinder head studs and starter removal on Rambler V-8. Cylinder head torquing on most GMC V-6 and V-8 gas engines and GMC diesels. Cummins diesel compressor base bolts. Chrysler exhaust pipe flange nuts. Engine support bolts on Chrysler, Dodge and DeSoto. Steering arm nuts on Farmall Tractors and many other applications. $9\frac{1}{4}$" long.

Ⓖ **M-1301B Cummins Head Bolt Torque Adaptor** has $1\frac{1}{4}$" "Boxocket" opening to handle bolts around water manifold jacket on model "H" engines without removing manifold. 12" long. Fits all $\frac{3}{4}$" square drive handles. Use TQ-602A "Torqometer" to torque bolts to required 450 foot pounds.

Ⓗ **M-3502 Cylinder Head Wrench.** $\frac{5}{8}$" double hex opening. For use on GMC diesel engines and GMC V-6, V-8 and V-12 gasoline engines, also for Rambler overhead valve "6 cyl." especially 1964 American. Overall length is $4\frac{1}{2}$". $\frac{1}{2}$" square drive.

Ⓙ **S-8663B Cylinder Head Wrench.** $1\frac{1}{16}$" double hex opening. For Pontiac, Studebaker, Ford, Chrysler Windsor, Willys "F" Head 4 and 6 cylinder Jeeps and cars, VA series Case tractors and Ferguson tractors. Length is $7\frac{3}{16}$". $\frac{1}{2}$" square drive.

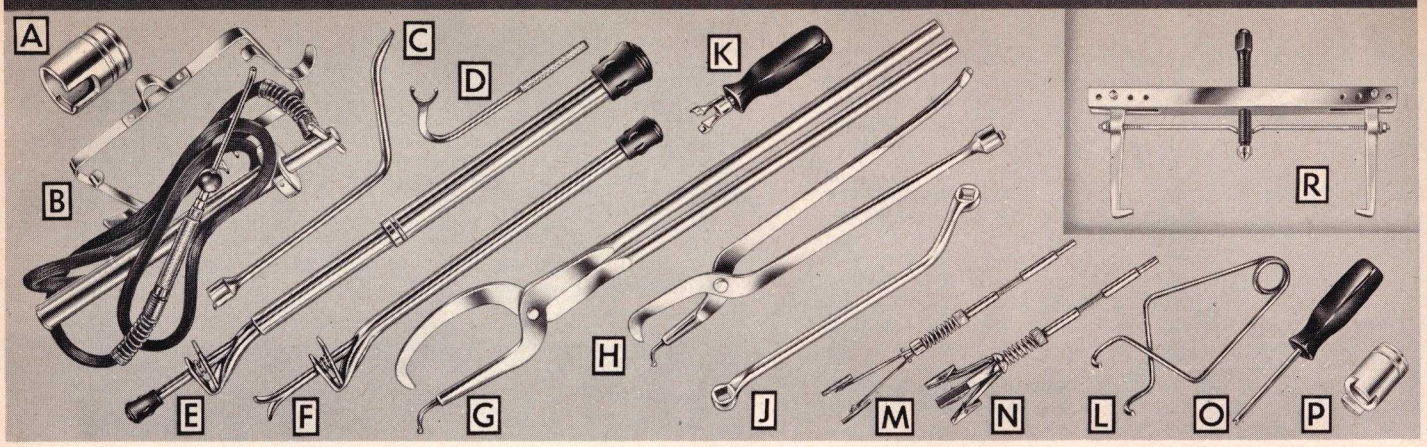
Ⓚ **S-8694 Ford Cylinder Head Wrench.** $1\frac{1}{16}$" double hex opening for torquing head nuts on '62-'67 Fairlanes and models which have the 221 cubic inch engine. The shallow socket portion and narrow shank on this tool provide the necessary clearance to turn head bolts located under the exhaust manifold. Use with any $\frac{1}{2}$" sq. dr. handle or "Torqometer." Overall length is 4". Tool is chrome plated.

Ⓛ **M-1401 Torque Adaptor.** $1\frac{1}{16}$" cutaway double hex "boxocket" for torquing head bolts on Ford Dexta Tractors. The cutaway portion on the "Boxocket" end allows the unit to be placed on the head bolts without removing the fuel injectors. Use with any $\frac{1}{2}$" sq. drive handle or "Torqometer." Overall length $3\frac{3}{4}$". Tool is chrome plated.

Ⓜ **M-3504 Cylinder Head Wrench.** $\frac{9}{16}$" double hex opening. Designed for torquing head bolts on General Motors V-6 and V-12 diesel engines. The bolts which are located in the "valley" are partially obstructed preventing use of a standard wrench. Use with any $\frac{1}{2}$" sq. drive handle or "Torqometer." Overall length $8\frac{1}{8}$", outside diam. of "Boxocket" end $\frac{29}{32}$".

Ⓝ **S-9513C Cylinder Head Wrench.** $\frac{3}{4}$" double hex opening. For use on nuts under exhaust manifold on Chevy and Ford product engines and on White trucks, Twin Coach, Allis-Chalmers tractors, Oliver series 66, 67 and 88 tractors and Farmall "H" tractors. Made of $\frac{1}{2}$" stock with $2\frac{1}{4}$" offset for rocker arm clearance. Overall length is $6\frac{1}{2}$". $\frac{1}{2}$" square drive.

SPECIAL BRAKE SERVICE TOOLS



CASH IN ON THE VAST BRAKE SERVICE MARKET AND PROTECT YOUR CUSTOMERS TOO

Promote Safer Driving By Suggesting Regular Brake Checks

(A) **S-8187 Brake Cylinder Vacuum Check Valve Socket.** This special socket enables fast and proper servicing of the vacuum cylinder check valve used in the power brake units of Oldsmobile, Pontiac, and Buick. Due to the location and plastic construction of the check valve, it is virtually impossible to service properly without a special tool of this nature. This socket efficiently handles both the angled and straight-type check valves encountered, and eliminates the possibility of damaging them. The tool has ½" square drive and a rust resistant, attractive chrome plated finish.

(B) **MBF-1 Brake Fluid Dispenser.** Always delivers clean fluid to the brake cylinder because it is designed to fit into a standard one gallon can of clean brake fluid. As it stays in the can until empty there is no possibility of dirt entering at any time.

The unit has a self-contained, spring loaded piston — you simply pull up on the handle and the dispenser is "loaded" with 2 oz. of fluid under pressure. A self closing valve is actuated by the black ball — pull it back and you can deliver a few drops or a full 2 oz. of fluid. You have absolute control of the amount dispensed.

Each unit comes with five feet of oil proof hose with spring guards at both ends to prevent kinking or breaking. A hose rack is also included that attaches to the can to hold the hose off the floor when not in use. The long bent nozzle makes it easy to reach the master cylinder regardless of its position in the car. The can is not included with the unit. Also used for shock absorbers, power steering, etc.

MFB-1-2A5 Five foot hose assembly replacement with ferrules and crimping tool.

MBF-1-2A7 Seven foot hose assembly replacement with ferrules and crimping tool.

(C) **BT-11 Brake Spring Tool.** An efficient tool for removing or replacing Bendix brake springs but will work equally well on any spring that is attached to a post. Socket end is for removing and hook end for replacing the springs. Fast and easy to use. 9¾" long.

(D) **S-9481A Adjusting Nut Wrench for Chrysler Emergency Brake.** The emergency brake adjustment on later Chrysler products is located where access is a problem. This wrench is designed to get past all obstructions and do the job quickly and efficiently. Can be used on all old and new Chrysler products having an internal expanding hand brake adjustment.

(E) **GA-73B Brake Bleeder Pedal Jack.** The extension shaft is spring mounted to exert continuous pressure even when pedal position changes as air or fluid is vented from system. Excellent for use for wheel alignment work. Adjusts from 15⅛" minimum to 26¼" maximum. Lever action grips tight as pressure is applied.

GA-73-1 Large Rubber Tip.

GA-37A-1 Small Rubber Tip.

(F) **GA-36A Brake Pedal Jack.** A lightweight telescoping jack that adjusts to any position from 16" to 26". Frame is of ⅝" aluminum tubing with a ⅜" diameter push rod. Lever action grips tighter as more pressure is applied. Has GA-37A-1 rubber tip on one end and metal fork on the other.

(G) **231 Truck Brake Spring Pliers.** For removing and replacing the heavy brake shoe return springs on some models of Huck, Lockheed, Wagner and other trucks. This big, sturdy plier makes the job easier and safer for the mechanic. 20¼" long, its ample leverage requires very little effort to stretch the spring.

231-3 Replacement Hook. For above plier.

(H) **No. 131A Brake Spring Pliers.** A combination tool that can be used for the removal and replacement of Bendix, Lockheed and other hydraulic and mechanical brake springs. The steel hook on the jaw is replaceable if necessary. Handles provide socket-type spring remover and hook end replacer. Overall length 13¼". Rust resistant plating.

(J) **B-1464 Taunus Brake Wrench.** This new tool is ideal for servicing brakes on Taunus. Both ends of this "Boxocket" have 10mm square broaching. One end is straight with the handle and the other is offset at a 45-degree angle to provide necessary working clearance.

(K) **B-1356A Brake Shoe Spring Tool.** Designed to remove and replace brake shoe retaining spring caps on all model cars. Both the coil spring type and flat spring type caps can be removed safely and easily. For coil spring caps place tool over cap, twist and cap is easily removed. For flat spring type caps, place the special groove of tool over spring, exert pressure, give light twist and remove cap. Plastic handle. Metal parts chrome plated, 5 1/16" long.

(L) **BL-41A Set of Four Cylinder Clamps.** Hold the pistons in place when replacing or installing brake shoes. The semi-circle ends hold the pistons at the edges, are turned out 90° without the prongs projecting into the cylinder thus possibility of damage is eliminated. Easy to apply with no chance of leaving clamp on brake cylinder when reassembling. 6" long, closes to 1¾".

Small Cylinder Hones for deglazing and honing cylinders. Excellent for brake work, instantly recondition master cylinder. Used also on small engines such as Volkswagen. Speed up new ring break-in. Stones carried on free-swinging, self-centering shoes. Screw controls tension. Flexible cable eliminates need for perfect line up. Use with ¼" electric drill. Flexible cable not guaranteed. Lubricate while honing, brake fluid is satisfactory.

(M) **JT-64** two-arm hone for ½" to 2" diameter cylinders with 2 medium grit stones, each 1⅛" long.

JT-64-1 Set of 2 medium grit stones for JT-64.

JT-64-14 Set of 2 fine grit stones for JT-64.

(N) **B-200** for ¾" to 2½" diameter cylinders, with 3 medium grit stones, 3/16" x 1⅛".

B-201 Set of 3 medium grit stones for B-200 and old CF-63, each 1⅛" long.

B-202 Set of 3 fine grit stones for B-200 and old CF-63, each 1⅛" long.

JT-63-21 Set of 3 medium grit stones for B-200 and old CF-63, each 2" long.

JT-63-24 Set of 3 fine grit stones for B-200 and old CF-63, each 2" long.

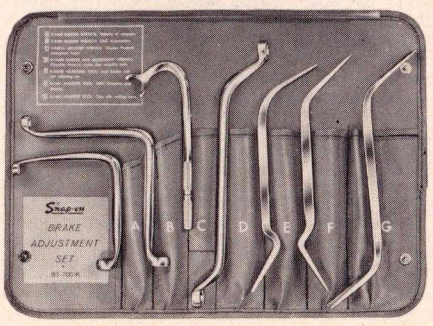
(O) **S-6404A Brake Spring Tool.** Designed to remove and replace bee-hive type brake shoe retainer spring found on Bendix-type brakes. Insert tool through hole in web of brake shoe and place slot on retainer spring bracket. Apply pressure downward, twist and spring is removed. Replaced in same way. 6¼" long. A real time saver.

(P) **B-1357 Speed Nut Socket** for use on brake drum speed nuts on Ford, Olds, Chevy, Rambler and most other cars having flange type axles. Protruding portions of socket fit recesses of the nut for safe turning. Has ⅜" square drive to fit "Ferret" Handles. 1 13/16" long, diameter 1". Chrome plated. A real time saver.

(R) **CJ-100A Brake Drum Puller.** For removing rear brake drums from late model Fords and GM products that have flange type axles. To remove the drum lock the jaws of the CJ-100A on the outer rim of the drum, center the pressure screw on axle and apply pressure. The clamp bolt is used to lock the jaws on the drum to help prevent possibility of slipping. If drum is solidly frozen to backing plate do not force the puller or you may damage the drum . . . apply heat to the drum to help free it. Jaws may be placed at various widths to cover drums in the 9" to 16" range. The CJ-100A consists of the following.

CJ-83-2 Pressure Screw
CJ-84-16 Expansion Plug
CJ-85-4 Clamp Washer (2)
CJ-100-1 Jaw Yoke
CJ-100A-2 Clamp Bolt
CJ-105-11 Jaw Pin (2)
CJ-282-1 Puller Jaw (2)
ESD-1053 Clamp Nut (2)

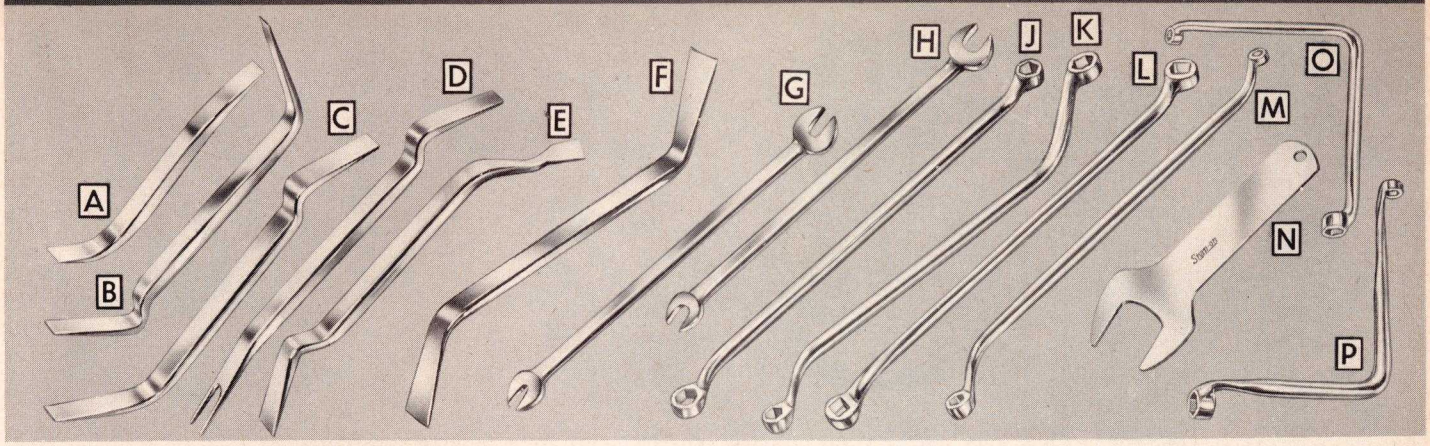
CJ-100A-R Puller Modification Kit. Enables owners of earlier model CJ-100 Brake Drum Puller to make it easier to use. Kit contains a CJ-100A-2 Clamp Bolt, two CJ-85-4 Washers and two ESD-1053 Hex Nuts.



BT-700-K BRAKE TOOL SET

BT-700-K Set. Contains seven popular adjusting tools to handle a majority of brake adjusting service jobs. The tools come with a special red Vinyl Kit Bag, C-76, with a separate pocket for each tool. Each pocket is lettered to agree with descriptive listing of each tool printed on the kit. Tools included are B-1463, S-8184, S-9481A, B-1460B, B-3404B, B-1461, B-1462. The S-9481A is described on this page — the others on page 91.

SPECIAL BRAKE SERVICE TOOLS



Ⓐ S-9523 Chevy Brake Adjusting Tool. A short, star nut turning tool that is necessary for brake adjusting work on Chevy trucks with overload springs. Different angles at each end take care of the clearance problems brought about by the additional springs. Will also prove ideal for other cars and trucks. Blades are 17/32" wide. Overall length of tool is 5¼".

Ⓑ S-9153B Pontiac Brake Adjusting Tool. Specially designed to adjust brakes on Pontiac cars. It is made to work around or through all interfering parts such as frame fittings, etc. ½" wide blades are just the right thinness to do an accurate, fast, and easy job and are both bent in the same direction to provide a flat surface for the hand during the tightening operation. Overall length of the tool is 7⅞".

Ⓒ B-3404B Brake Adjusting Tool. Services Bendix self adjusting brakes and other brakes using star adjusting nut except those on Chevrolet. The tool is 8 3/16" long. Blades are 17/32" wide and 1/32" tip thickness.

Ⓓ S-8353B Bendix Brake Adjusting Tool. Speeds work on late model Bendix brakes with rubber plug in adjustment opening. Insert the pronged end under the plug, pry it out and leave it in the prong for fast replacement after adjusting is made. This adjusting tool is 8⅞" long.

Ⓔ B-1461 Brake Adjusting Tool. For 1960–67 Corvair, Buick Special, Olds F-85, Rambler and Tempest. One end has wide set tang at 29° angle for use on rear brakes, other end of 45° angle for front brakes. 8¼" long.

Ⓕ B-1462 Brake Adjusting Tool. For rear brakes of cars and trucks with trailing arms such as 1958–67 Chevy trucks, GMC trucks, standard Buicks, Olds and Pontiacs. Tang at each end set at 64° but in opposite directions, one for right hand side and other, left hand side. 8¾" overall, chrome plated finish.

Ⓖ B-1351A Bendix Brake Wrench. Designed for eccentric cam on Bendix Internal Brakes and gives the two most needed sizes of openings, 8½" long, ¼" head thickness. 3/16" and ¼" openings.

Ⓗ S-8652A Ford Brake Eccentric Wrench. A special wrench to fit the brake eccentric adjusting screw on 1939 through 1948 Ford passenger car and truck hydraulic brakes. Just right for fast easy work. Overall length of tool is 8½". Small heads are broached with 5/16" and ⅜" wrench openings.

Ⓙ B-1456A Brake Bleeder Boxocket. A single hex offset Boxocket with ⅜" and 7/16" openings for bleeding hydraulic brake systems found on GM and most other passenger cars. The single hex openings and 9" length combine to make this job easier and faster for the mechanic.

Ⓚ B-1460B Brake Bleeder and Adjusting "Boxocket." For late model Chrysler products. Single hex offset wrench with ⅜" and 7/16" openings. The ⅜" end is for use in brake bleeding work and it will fit most passenger cars. The 7/16" end is used when adjusting brake shoe eccentric bolts. The offset on this end will clear drag link arm and recessed backing plate on front wheels still leaving room for the hand to fit between tire and wrench. Overall length is 9½" to provide plenty of leverage to break loose rusted bolts.

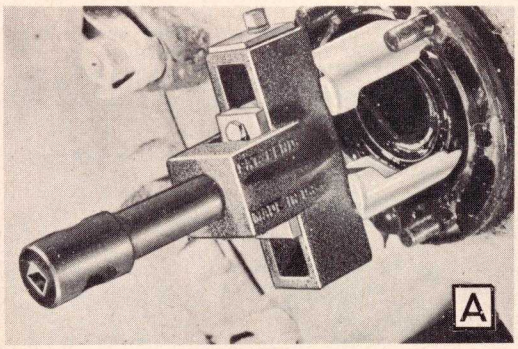
Ⓛ B-1459 Brake Adjusting Boxocket. For Bendix floating shoe-type brakes on late model Ramblers, Statesman and some other makes of cars. These brakes have an adjusting bolt with ⅜" square head. This wrench has two ⅜" single square openings — one at a 45° angle and the other straight with the handle. Tool length is 9½".

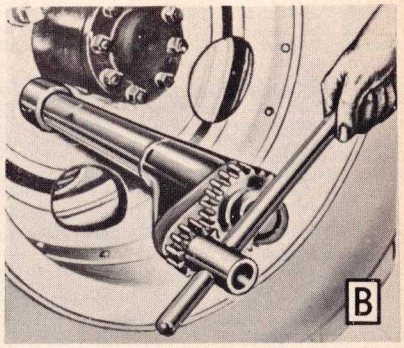
Ⓜ B-1458A Brake Bleeder Boxocket. A special offset "Boxocket" with ⅜" and ¼" single hex openings. ¼" size is needed for many late model cars. The wrench will handle most cars and light trucks. 9½" length and offset heads provide leverage and clearance from backing plate, brake lines, etc.

Ⓝ S-5901 Volkswagen Wheel Bearing Wrench. 27mm open end set at 15° for use on front wheel bearing assemblies. Two thin nuts are used, one locking the other. We recommend that you have two of these wrenches — one to hold the inner nut the other to turn the outer nut. 6" long. Cadmium plated finish.

Ⓞ B-1463 Brake Bleeder Wrench. Especially designed for smaller fittings on majority of GM, Ford and other new compacts. "L" shape provides leverage. The ¼" single hex end is tapered to allow for clearance in removing bleeder screw. The ⅜" single hex end fits standard and some compact cars. Chrome finish.

Ⓟ S-8184 Brake Bleeder Wrench. Required for the fittings on all GM cars. Each arm is approximately 4" long. The single hex openings are ⅜" and 5/16".





Ⓐ AXLE NUT WRENCH FOR TRUCKS, TRACTORS, TRAILERS, AIRPLANES

Handles both hex and octagon sizes from 2⅛" to 4⅞". Forged jaws slide back and forth in malleable cast iron base. Screw, with opposite threads move jaws in constant relationship to each other, thus always center on axle nut. Two bolts lock jaws in position, jaws fit over opposite corners of nut only and work even is nut is badly battered. The extension bar has a ¾" male square drive to fit the base and a ½" female end to take a Speeder Handle. A cross hole receives the L-72H Bar handle for breaking loose or final setting of the bearing. Speeder and Bar Handle are not included in the set.

AN-102 Axle Nut Wrench Set. Consists of the base, one set each of hex and octagon jaws, an extra adjusting screw, and extension bar.

AN-100A Axle Nut Hex Wrench Set. Consists of the base, set of hex jaws, adjusting screw and extension bar.

AN-101A Axle Nut Octagon Wrench Set. Consists of the base, one set of octagon jaws, adjusting screw and extension bar.

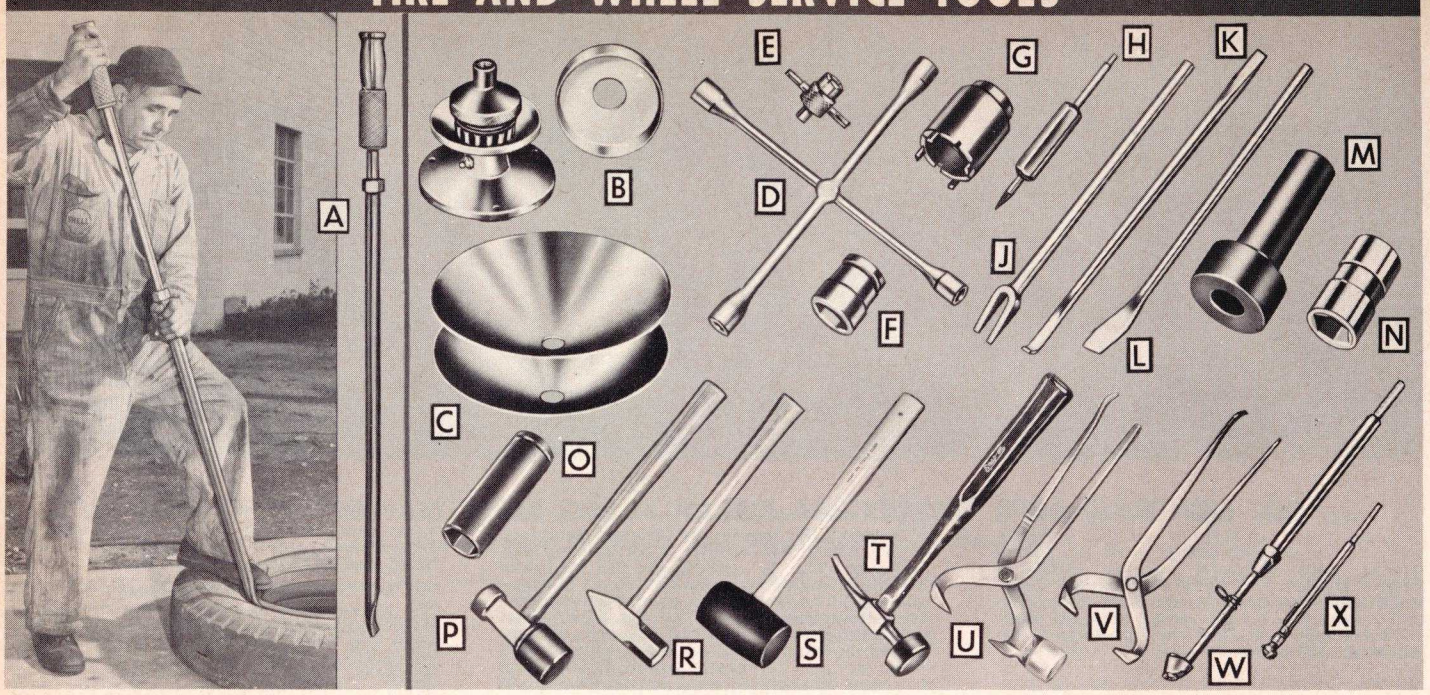
AN-110 Pair Hex Jaws with Screw
AN-120 Pair Octagon Jaws with Screw
AN-9 Special Extension Bar
L-72H Bar Handle
S-4 ½" Square Drive Speeder
AN-103A Chevrolet, GMC Axle Nut Set, consisting of the base, the extension bar and one AN-130 set of jaws, 2¼" to 5" capacity.
AN-130 Pair of Chevy-GMC jaws with adjusting screw.

Ⓑ POWERENCH FOR BUDD WHEELS

GA-83 Powerench. A powerful geared wrench for mounting and removing Budd wheels on the road or in the shop. It's easy for one man to use, for once mounted on the work it supports itself leaving both hands free for the actual turning operation. An added safety feature against half-done jobs is provided in the unit as the outer hex nut cannot be tightened if the inner nut is still loose. Fits 13/16" square and ½" hex nuts.

GA-83-64 Adaptor. This unit is used in the hex drive of the Powerench above for 3 to 1 power ratio on Budd Wheel inner cap nuts.

TIRE AND WHEEL SERVICE TOOLS



Ⓐ **TR-200 Tire Bead Remover . . .** for bus, truck, and tractor tires. Chisel edge is quickly positioned . . . hand hold prevents it from turning under hammer shock. Sliding hammer weighs 13 lbs., this weight plus momentum of blow delivers a shock force powerful enough to break loose even the largest tire bead.

Safety . . . a 2″ clearance between top of tube and the hammer eliminates danger of smashing fingers during the bead breaking operation.

Back-up feature . . . hammer shaft has a flanged bottom to prevent it from pulling out of the tube — this allows using the hammer to back the tool out should it get stuck between tire and rim. Length of stroke 16″, 46″ long, weight 18 pounds.

Ⓑ **A-180A Wheel Bearing Packer** with dust cover. Make repacking bearings a fast, easy and profitable operation. Retainer nut is double cone shape with ¾″ neck. Outside of nut is knurled for firm grip. The bore is coarse threaded to within ½″ of end of nut. The ½″ unthreaded section allows nut to seat itself on screw.

Ⓒ **A-180A-6 Set of Two Cone Shaped Adaptors.** Adapts the above tool to grease even the large bearings on earth-moving equipment. Outside diameter is 8″. The retainer nut holds the bearing and adaptors on the packing tool. Grease is forced in through the grease fitting and old grease is forced out.

Ⓓ **TR-105 Rim Wrench.** Powerful, 4-arm speed tool for wheel removing. Socket ends have 13/16″, ¾″, ⅞″ and 15/16″ hex openings, broached extra deep to operate over protruding bolts. Arms are 10″ long.

Ⓔ **GA-143 Tire Valve Tool.** Here's a handy little tool for tire servicing. One end is for removing or inserting the valve core, one end for tapping out the valve core threads, one end for chasing the outside threads and one end which acts as an air nozzle. Threaded on the valve stem it holds the stem in position and an air hose can then be used to partially inflate the tube.

Ⓕ **Budd Wheel Sockets.** Heavy wall construction for impact wrench use. Each has a groove for locking ring and pin.

BW-482 Socket. 1½″ single hex, ¾″ square drive, 5″ long.

BW-626A Socket. 13/16″ single square, ¾″ square drive, 4″ long.

IM-182R ..... Locking Ring for above.
IM-182P ..... Steel Pin for above.
IM-182PR Rawhide Pin for above.

BW-483B Socket. 1½″ Single hex, 1″ square drive, 3″ long.

BW-726A Socket. Single square, 1″ square drive, 2¼″ long.

IM-243R ..... Locking Ring for above.
IM-243P ..... Steel Pin for above.
IM-243PR ..... Rawhide Pin for above.

Ⓖ **S-8695 Special Lug Socket.** For removing and replacing the front drive axle lock nuts on Ford and Chevy 4-wheel drive trucks. Socket is ½″ square drive.

Ⓗ **TR-104 Tire Valve Tool,** in compact, 2 in 1 tire valve tool useful in all tire repair work. One end of the shaft has a tapered left-hand thread for quick, easy removal of broken valve cores. The other end is slotted to fit all standard valve core tips for easy removal and replacement of valve core. Fluted plastic handle is ⅝″ in diameter, 2″ long.

Ⓙ **Tie Rod Separators.** These sturdy split wedge type tools are designed for separating tierods, ball joints, pitman arms, and knuckles on cars and trucks. Long handles put anvil end out in the open for hammer blows.

A-200 Separator. 13/16″ jaw opening, ⅞″ thickness. 18″ long.

A-201 Separator. 1″ jaw opening, 15/16″ thickness. 12″ long.

Ⓚ **TR-100 Rim Tool.** Here's a tool that really does the job on split rims and rim lock rings used on older cars and practically all trucks. 19⅛″ long, with ends 9/16″ and ⅝″ wide. One end is bent, the other straight.

Ⓛ **TR-102 Curved Tire Removing Tool** for drop center tires. 1⅜″ wide, 18″ long. Has plenty of purchase without danger of injuring tire.

TR-103 Straight Tire Tool. Same as TR-102 but has straight blade.

Ⓜ **A-230 Set of Two Front Wheel Spindle Protectors.** Made of Buna N black rubber material. These bolt-shaped units are 5¼″ long and fit over the spindle to protect it when the wheels are removed and when brake or other work is being done.

Ⓝ **A-93 Wheel Lug Nut Socket Wrench** has ¾″ single hex opening at one end and 13/16″ at other end with a ½″ square drive inside the socket between the two wrench openings. When used with our impact drive wrenches extension SX-3 should be used. Socket is 2⅜16″ long with 1⅜16″ diameter.

Ⓞ **DW-402 Single Hex Socket.** 1¼″ Single hex for "Dayton" truck wheel lug nuts. Heavy wall construction. 5″ long to clear the wheel rim. Black finish.

IM-182R ..... Locking Ring for above.
IM-182P ..... Steel Pin for above.
IM-182PR ..... Rawhide Pin for above.

Ⓟ **BH-38B Combination Tire Hammer.** Drop-forged steel head is 5″ long with a 1 9/16″ diameter steel face on one end and a 2″ diameter hard rubber tip on the other. Tips are easily replaced. 15″ hardwood handle. Weight 2 lbs. 4 oz.

BH-38B-2 ..... Replaceable rubber tip.
BPH-24 ..... Replacement Wood Handle.

▲ Ⓡ **BH-123 Cross-peen Hammer.** Excellent for the repair work since it has plenty of "beef" to handle heavy tires. Also can be used for many other jobs such as straightening frames, bumper brackets, bumpers, puller work, etc. Has flat face on one end — other end tapers to edge. Heads are black with polished faces. Hard wood handle. Weight, 3 lbs., 10 ounces.

Ⓢ **BF-620 Rubber Mallet.** Excellent for automotive body work, replacing hub caps, etc. Solid rubber head is 3⅞″ long and 2 15/16″ diameter. Hardwood handle is 14¼″ long.

Ⓣ **TR-250 Wheel Cover Tool.** Has specially shaped pry end, curved to the proper radius to make wheel cover removal a fast, easy job on all makes and models of automobiles. The rubber boot on the hammer end helps prevent danger of damage, scratching, etc., to the ornamental cover when replacing. Boot is 2″ diameter and is easily replaced when worn. Handle is 13″ long, head 5 27/32″ long.

TR-250-2 Rubber Boot for above tool.

Ⓤ **GCP-11 Grease and Hub Cap Tool.** One handle has a bent edge that fits behind the hub cap to pry it loose. Tapered jaws of the tool fit behind the crimped ridge of the grease cap to provide a firm wedging grip that easily removes the tightest cap. One jaw is designed with a replaceable, tough plastic hammer head for replacing the grease cap. The overall length is 10⅝″.

Ⓥ **GCP-10 Grease and Hub Cap Tool.** Same as GCP-11 above but without the hammer head.

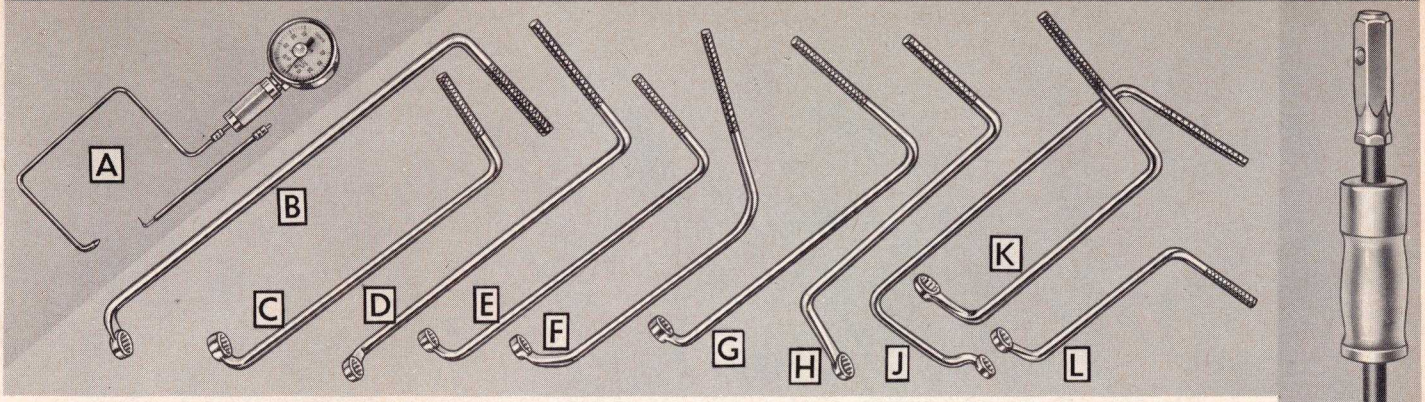
Tire Air Pressure Gauges Engineered and made to exacting standards. Equipped with 4 sided indicators to give maximum visibility and convenience. Two models are available.

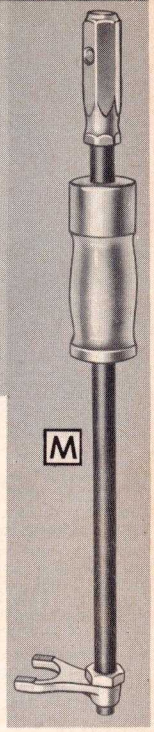
Ⓦ **GA-246 Truck Tire Gauge** calibrated in 1 lb. units up to 60 lbs. and 5 lb. units from 60 to 160 lbs. A rugged unit. Has a convenient ring for attaching to a chain or to hang gauge in handy location. 13″ long.

Ⓧ **GA-241 Pencil Gauge** for passenger cars and light trucks, calibrated in 1 pound increments up to 50 lbs. Has convenient pocket clip. Rounded head has a small button for depressing valve core. 5¾″ long.

▲ **Federal Specs: GGG-H-86A applies to the BH-123 Hammer.**

SPECIAL TOOLS FOR DISTRIBUTOR SERVICE





Ⓐ **MT-104 Distributor Point and Generator Brush Rig Tension Gauge.** For either push or pull action when testing the tension of distributor points on cars and most trucks, and for a pulling test of the pressure of brushes against generator commutators. Dial is calibrated 0—40 ounces.

A "lazy-hand" holds the highest tension reached and permits watching the points or brushes to see when they open. The straight extension is used for distributor points and the bent extension for Generator Brush rigs. Extensions screw onto gauge.

Ⓑ **S-8176 Distributor Wrench** for 1956-67 Pontiacs and Oldsmobiles. Has 9/16" double hex. Reaches in between the distributor and fire wall on these cars where standard tool will not work. 16" long. Chrome plated.

Ⓒ **S-8177A 9/16" Double Hex "Boxocket" Distributor Wrench** for 1963 Pontiac Tempest. Overall length 12¼", head thickness 3/8".

Ⓓ **S-9476A Distributor Wrench.** ½" double hex for 1954-67 8 cylinder Chrysler, DeSoto and Dodge. Has longer shank to clear wires around distributor. Air filter must be removed before bolts can be serviced. 12" long, 5" handle. Also useful on Ford Super Duty Trucks.

Ⓔ **S-9467B Chrysler Line Distributor Wrench.** A 7/16" double hex "Boxocket" for loosening or removing the distributor on Chrysler, Dodge, DeSoto, Plymouths, Dart and Valiant. Reaches around distributor to do a fast job. 11 23/32" from handle to head.

Ⓕ **S-8564B Distributor Wrench** for making adjustments easily and safely on Lincoln and 1954 through 1966 Ford and Mercury. The handle is offset at 110° angle to clear obstructions such as coil, distributor leads, etc. Has double hex ½" opening at right angle to shank to clear wires and tubes. Overall length is 11 5/8".

Ⓖ **S-9838 Distributor Wrench.** 9/16" double hex for turning the distributor hold-down bolts on 1961 through 1967 Buick Special and V-6 Special, and on Oldsmobile F-85. The opening and the knurled handle are parallel, but the shaft is angled to clear obstructions. 11 1/8" inches long.

Ⓗ **S-9832B Buick and V-8 Chevy Distributor Wrench.** 9/16" double hex Boxocket for 1953-67 models. 10" handle clears obstructions. 4½" offset handle. Head thickness tapers making it easier to remove wrench after nuts are loosened.

Ⓙ **S-6405 ½" Double Hex "Boxocket" Distributor Wrench** for Ford Falcon, Ford Econoline and Comet models. Head is tapered. Shaft is 11" long with 4 3/4" handle and 4¼" offset with boxocket.

Ⓚ **M-3515 GMC Distributor Wrench.** A 9/16" double hex Boxocket for turning the distributor hold-down bolts on GMC V-6 and V-8 trucks. Distributor location on these vehicles prevents the use of standard wrenches. This special wrench provides necessary clearance to do the job easily and quickly. Wrench is 8¼" long and has knurled handle. Chrome plated finish.

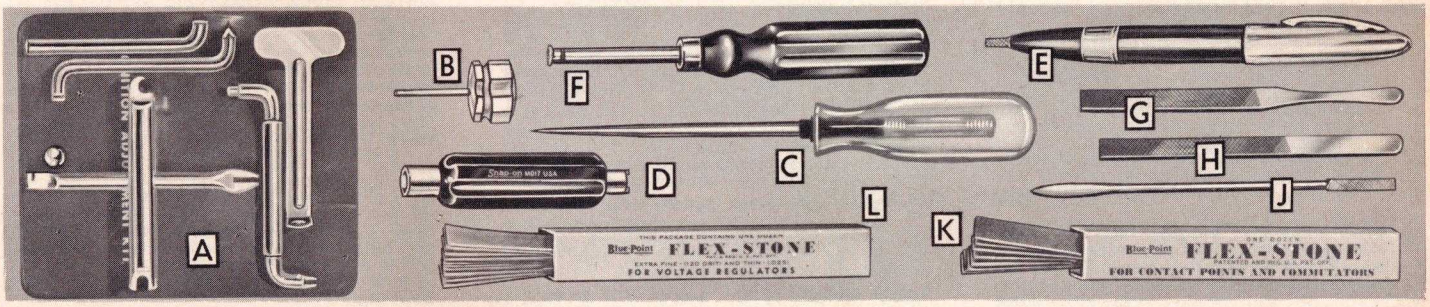
Ⓛ **S-8173 Olds, Buick, Cadillac and Packard Distributor Wrench.** ½" double hex "Boxocket" opening. The long handle affords 6 11/16" clearance over obstructions putting your hands out where there is less danger of bumping the distributor during tightening.

Ⓜ **CJ-106 Distributor Puller.** Engineered for Ford products but will work on most other cars.

Remove the distributor hold down bolt, the wires and vacuum line. Insert the puller fork under the distributor housing, then bump it out with the hammer.

Forked head is 3¼" long and 2 3/32" at its widest point. Serrated fork tips are 3/8" thick. Slide shaft is 23" long and the hammer weighs about 3½ lbs. Slide shaft and hammer from our CJ-97, CG-270H, CG-273H or CJ-105 Pullers can be used with the CJ-99.

CJ-99 ..... **Puller Head Assembly only.**



Ⓐ **TK-50A Tune-O-Kit.** Handles aligning and adjustment of the voltage regulators and distributors on most cars. Set contains following tools, in pocket size plastic kit bag.

TK-30 Ignition Point Aligning Tool. For Delco and Autolite distributors.

TK-31 Ford Distributor Tool. Adjust vacuum control spring tension.

TK-32A Voltage Regulator Tool. Adjusts most types of voltage regulators.

TK-33 Offset Screw Driver. For ignition point clamp screw on Ford V-8.

TK-34 Ford Voltage Regulator Tool. For voltage regulator adjustments.

Ⓑ **Point Adjustment Tools.** For adjusting points on Delco-Remy window-type distributors with the external adjustment. A SNAP-ON dwell meter should be used when making the adjustment. Disconnect thermo-unit wire to permit access to housing window. Also needed for adjusting regulator point spring tension.

SDA-3 3/32" Hex Driver. 2" long.

SDA-4 1/8" Hex Driver. 2" long.

Ⓒ **SSTP-5 Spark Tester,** neon type with sharp tapered prod and shock-proof plastic handle for use on ignition systems with shielded plugs. Tubes replaceable.

NT-2 Neon Tube, for above tester.

Ⓓ **MD-17 Distributor Terminal Tool.** For the removal, replacement, and adjustment of points on Chevy 6-cylinder, Delco-Remy distributors. Black plastic handle has an 11/32" socket at one end and a pronged socket at the other. Overall length is 4".

Ⓔ **GA-128 Burnishing Pen.** Remove dust, oil or oxidation from voltage regulator points, relays, solenoids, brushes, thermostats, etc., with this handy burnishing tool. It does a better job than abrasive or fluid cleaning methods which can pit, scratch or leave oil films on contact surfaces.

The plastic body minimizes the danger of shock when working on energized contacts. A twist lock tip allows easy extension of the 4" blade without touching it. The worn end of the adjustable blade can be cut off and a new portion extended.

The microfine finish of the element assures controlled cleaning action while polishing contacts smooth and clean.

GA-129 Replacement Burnishing Blade.

Ⓕ **ACD-12 Distributor Cleaning Brush.** Wire brush cleans terminal connections on distributor and coil. 5¼" long, handle 4", wire diameter .012".

▲ Ⓖ **HB-5 Ignition Point File.** A fine double-cut tungsten file for spark plug and distributor points and other contact points.

Ⓗ **HB-2470 Voltage Regulator Point File.** An extra thin file with a very fine cut. It is 5" long, 5/16" wide and .015" thick.

Ⓙ **HB-1997 Voltage Regulator Riffler.** This file has one curved and one flat tip, recommended for removing pits and corrosion from voltage regulator contact points. 6" long.

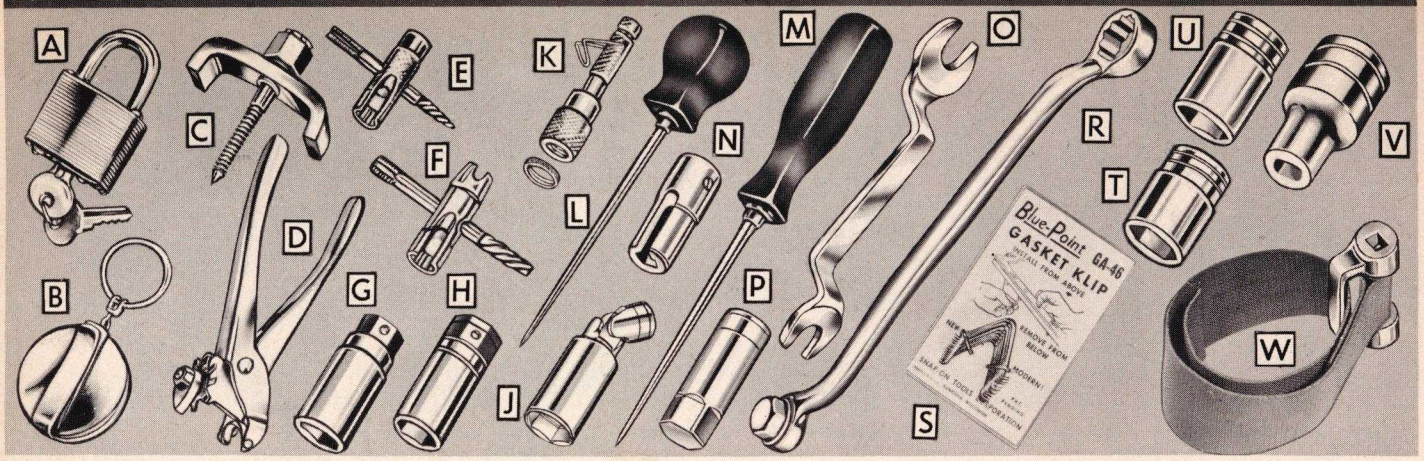
Flex-Stones. For truing ignition points. Economical—long lasting—flexible—nonconductors of electricity—plastic material imbedded with highly vitrified abrasive.

Ⓚ **GA-3 Flex-Stones.** (.050" thick.) Pkg. of 12.

Ⓛ **GA-43 Thin Flex-Stones.** (.025") For Voltage Regulator work. Package of 12.

▲ **Federal Specs: GGG-F-331A applies to items on this page indicated by this symbol ▲.**

MISCELLANEOUS SPECIAL SERVICE TOOLS



Ⓐ **"Master" Padlocks,** one of the strongest, finest padlocks made, cannot jar open. Brass cylinder, nickel-silver pin tumbler, brass locking lever.

ML-1 Master Lock 1¾" steel case. Chrome-nickel steel tapered shackle hardened to resist file, saw or cutter; diameter 5/16", vertical clearance 13/16", our best padlock.

ML-3 Master Lock 1½" steel case. Chrome-nickel steel shackle hardened to resist file, saw or cutter; diameter 9/32", vertical clearance 5/8". A dependable high grade padlock.

ML-7 Master Lock 1¼" steel case. Manganese steel shackle, diameter 3/16". Vertical clearance 9/16". Smaller than the others but sturdily built for dependable service.

Ⓑ **GA-155A Key-Bac.** Helps prevent key loss. Case holds retrieving spring, 2' of chain, clips onto belt or pocket. The large split ring holds many keys.

Ⓒ **CG-25 Freeze Plug Puller.** A necessary tool for safely removing expansion or frost plugs quickly and easily from car and truck engines without danger of damage to the rim of the plug hole. Unit consists of two parts, a 2 7/8" long, self-tapping screw and a yoke or bridge. The screw has a point at one end and a hex head with a relieved end at the other. Screw has been heat treated to withstand repeated hammer blows. Bridge is 1/4" thick steel with a 5/16" hole to receive screw. When in use the bridge is placed in position over the plug and the screw is then inserted into the hole in the bridge with the point touching the plug. Screw is then given a sharp blow to penetrate plug. Turning hex of screw threads it into plug, additional turning removes it. Will handle plugs up to 2" diam.

Ⓓ **CF-71 Spark Plug Gapping Tool** for 14mm. 7/16" Reach, 18mm. Turbo Action, 14mm. 3/4" Reach and 18mm. Commercial. Will increase your spark plug sales by quickly giving exactly the right setting to the electrodes. Assure uniform, parallel gap for a fatter, surer spark. Motor runs smoother. You save time because you gauge and set the electrodes in one fast operation. Gauge wheel sets instantly for any car manufacturers' plug specifications. No "spring-back." Includes these sizes: .018, .020, .022, .025, .027, .028, .030, .032, .034 and .035.

Ⓔ **GA-22A Midget Grease Fitting Tool.** Services so called "Midget" grease fittings.

Ⓕ **GA-22 Standard Grease Fitting Tool.** Used to remove old fittings, rethread the holes and replace new fittings . . . fits standard size Zerk and Alemite grease fittings.

Ⓖ **S-9704D Spark Plug Socket.** 13/16" (20.6 mm.) Flank drive single hex socket fitted with a rubber insert to protect the plug. Rubber insert center hole grasps the knurl on the spark plug and holds it in the socket. Ribbed exterior holds the insert tightly in the socket. 3/8" square drive and 5/8" milled hex.

S-9704A-2 Rubber Insert only. Fits both the S-9704D and S-9705 sockets.

Ⓗ **S-9705 Spark Plug Socket.** 13/16" (20.6 mm.) Flank drive single hex socket. Same as the S-9704D above, but has 1/2" square drive and 7/8" milled hex.

Ⓙ **S-9704-FU Spark Plug Flexocket.** 13/16" (20.6 mm.) Flank drive single hex. Use with a speeder handle for fast, efficient spark plug service especially where obstructions interfere with ordinary socket use. A rubber insert grips the plug firmly to minimize chances of dropping and damaging it. Socket has 3/8" square drive, is 3 7/16" long. Chrome finish.

Ⓙ **S-9706-FU Spark Plug Flexocket.** 5/8" Flank drive single hex. For 14mm plugs on 1967 Buick 400 and 430 cubic in. engines. 3 5/16" long, 3/8" square drive. Has rubber insert to grip plug.

Ⓚ **GA-140A Speedometer Head Lubricator.** Allows you to do a complete speedometer lubrication without removing speedometer head or danger of over-lubrication. Holds a measured amount of oil by retracting plunger. Tool is then screwed onto speedometer head, releasing plunger forces oil into the working parts. Retracting the plunger removes excess oil from head. Packed in vinyl bag.

Ⓛ **6ASA Scratch Awl.** Similar to 5ASA below except that it has a stubby plastic handle that fits comfortably in the palm of your hand. Overall length, 6½".

Ⓜ **5ASA Scratch Awl.** This is a high quality alloy steel blade machined and ground from 1/4" diameter to a perfect taper, and hardened the full length. Handle is the same high grade contour-grip plastic handle used on our best screwdrivers. Metal ferrule on the blade prevents pressure from pushing blade through the handle. Overall length 8½".

Ⓝ **N-36 Zerk Grease Fitting Socket.** This is a 7/16" single hex socket with a slot machined out of the side wall. It is a time saver when replacing angle grease fittings. 1 31/32" long. Fits 1/2" square drive handles.

Ⓞ **Volkswagen Front Spindle Nut Wrenches.** The inner spindle nut must be held fast while outer nut is turned when work requires removal of these nuts. The 3/16" thin, offset heads let you do the job easily.

S-5903 Wrench. 24 mm. and 25 mm. sizes.

S-5904 Wrench. 27 mm. and 32 mm. sizes.

Ⓟ **CPT-110. Volkswagen Drain Plug Socket.** Fits the 17 mm. single hex opening in Volkswagen oil drain pump. Tool has a 3/8" square drive and is 2" long.

Ⓡ **S-5902 Volkswagen Oil and Transmission Plug Wrench.** Has an offset double hex 21 mm. Boxocket wrench opening at one end and a 17 mm. offset male hex on the other. Overall length 10¼". Chrome plated.

Ⓢ **GA-46 Gasket Clips.** Set of twelve spring steel clips. Hold gasket firmly in place while assembly is being made. Protects the gasket — cuts time 50 per cent. Quickly removed when bolts are positioned.

Ⓣ **A-118 Stop-Light Switch Socket.** 1" Hex socket, 3/8" drive for removal and replacement of stop-light switch. Clears wire terminal on end of switch. 1¾" long, bolt clearance depth 1⅛", O.D. 15/16".

Ⓤ **A-119 Oil Pressure Sender Socket.** 1 1/16" single hex, 3/8" square drive for use on all makes of cars with electric oil sender switches, especially GM. Provides greater wall contact, also useful on brass and other soft metal hex fittings. 2" long. Bolt clearance depth 1 3/8", O.D. 1 3/8", Chrome plated.

Ⓥ **Shock Absorber Sockets.** Made with oval socket openings to fit the flattened shock absorber shaft end. Hold the shock absorber nut with a box wrench and use the special socket to screw the shaft into the shock absorber to allow removal of the nut. Each socket is 1 5/8" long with 1/2" square drive and is chrome plated.

A-135 Socket. For 15/64" x 21/64" Shafts.

A-136 Socket. For 1/4" and 5/16" Shafts.

Ⓦ **A-91B Strap Wrench.** Pat. No. 2,995,965. Round or irregularly shaped objects from 1" to 6" diameter can be gripped, tightened or released with this tool. One end of housing has a 3/8" square opening and the other a 1/2" square opening to fit handles having these square drives. Housing is knurled on the outside to contribute to the gripping power and the wrench locks tighter as pressure is exerted. The strap is heavy duty webbing.

A-91A-2 Strap only.

"BLOK-CHEK" LEAK TESTER

Spots and Locates Combustion Leaks

Start tune-up procedure with Bloc-Chek. Watch for symptoms of combustion leaks. You may prevent a cracked head or block, pick up jobs that might have been over-looked, or prevent a come-back. With engine idling, place the Bloc-Chek in radiator opening squeeze bulb to draw in air sample from cooling system and through the test fluid.

If combustion gas is leaking into the cooling system the test fluid color changes from BLUE to YELLOW, even if the leak is very small. If a leak is indicated, the exact location is found by removing one spark plug at a time and retesting. **When a leaking cylinder is firing, the liquid will change to yellow — when non-leaking cylinders only are firing, the liquid will remain blue.**

Undetected combustion leaks in the valve area often cause cracked and loose valve seats. The coolant is forced away during heavy acceleration causing excessive heat build-up. When acceleration ceases, the diverted coolant rushes back to the area—damage to valve seats can result.

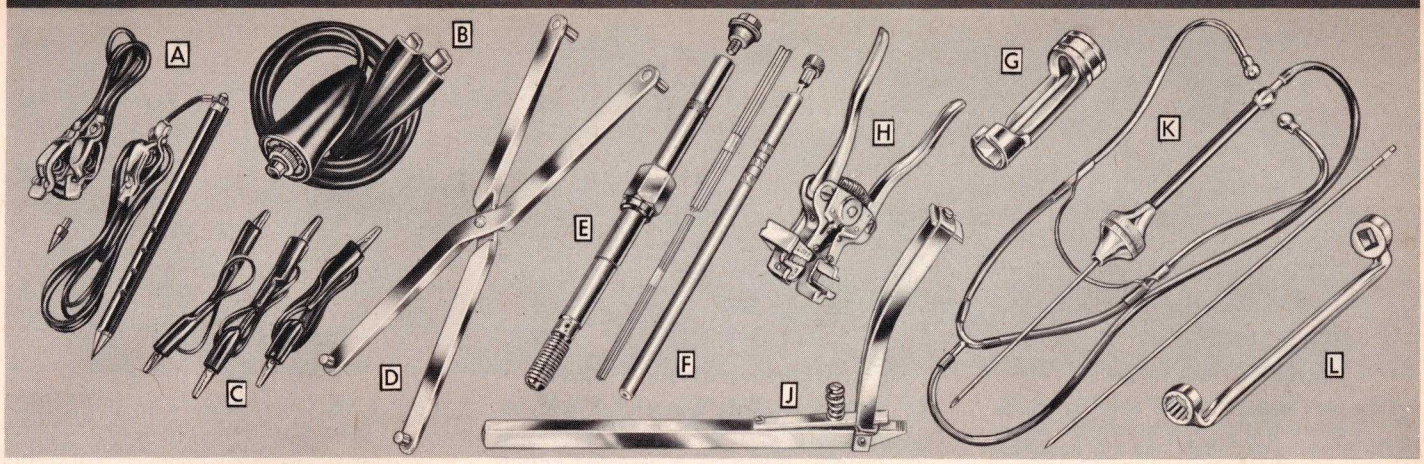


GA-170 Bloc-Chek Kit. Includes Tester, Fluid, Bulb and Case.

GA-171 Adaptor Plate for large engines.

GA-172 Test Fluid. 16 oz. bottle.

MISCELLANEOUS SPECIAL SERVICE TOOLS



Ⓐ **MT-330 Etching Pencil** with 4½′ lead wire. Can be used on either 6 or 12 volt systems to etch virtually any metal, removable parts or tools. Wires are flexible to avoid kinking. Pencil is small in diameter, has firm positive grip. The heavy duty replaceable solid copper tip has high current density. One tip is provided. Grounding wire is not provided but is available as optional unit. Extra tips also available Black bakelite handle.

MT-51902 Extra etching tip.

MT-52016 3′ Grounding jumper wire.

Ⓑ **MT-302 Remote Control Starter Switch.** A handy switch that permits the operation of the automobile engine from either side or from beneath the car. The 5 foot leads are of ample length. Unit will carry current of any car with push-button starter including GM cars which use solenoids. Compact, made of highest quality materials that assure long life. Switch housing is of neoprene with positive, comfortable grip — keeps out dirt and moisture. Is shock-proof. Switch button is chrome plated, resists rust. Heavy duty switch has inlaid silver contact points to reduce arcing.

Ⓒ **MT-301 Test Lead Kit.** This set of three jumper leads (one 12″, one 18″ and one 24″) provides a safe and quick method for checking wiring between lights, switches, ignition testing etc. All three leads have an alligator clip at each end with powerful spring action to assure firm, electrical connection. Also used as extensions for test leads or for shorting out components when testing ignition. Packed in plastic bag.

Ⓓ **A-176 Differential Adjusting Wrench.** Two sizes of prongs (9/32″ and 17/32″ long) on spreadable arms fit the adjustment nuts on most Differentials. May also be used on other jobs such as on steering gears, some water pumps, transmissions, etc., where a spanner wrench of this type is needed. Tool is 10″ long.

Ⓔ **GA-176A Oil Punch.** A simple, easy way to open sludge clogged initial oil channel leading to head bolt for clear oil flow to rocker arms without dismantling the engine. Screw unit into head bolt place, fill with oil, insert plunger into Oil Punch, apply blow with hammer to top of Plunger and a reverse flow of oil blows the channel and related passages clean. Complete with adaptor for 332 cubic inch and some large engines. Seals head bolt to rocker arm oil passage outlet.

Ⓕ **GA-158 Rear Main Bearing Tool.** Stops rear main bearing leaks without dropping the crankshaft. Consists of driving tool and twelve spacers — six large, six small. Remove bearing cap, start spacer in bottom of groove behind seal, place driver over spacer and tap push rod with hammer to insert spacer completely.

GA-158-60 Pkg. of 12 Small Spacers

GA-158-90 Pkg. of 12 Large Spacers

Ⓖ **M-3503 Diesel Fuel Injector Socket.** For use when working on the injector fuel lines of Detroit Diesel engines. The socket fits ½″ square drive handles or Torqometers. The wrench opening is ½″ single hex with a 9/32″ wall opening to slip over the fuel line. The socket is cut away to provide for the exit of the line. Overall length is 3¼″.

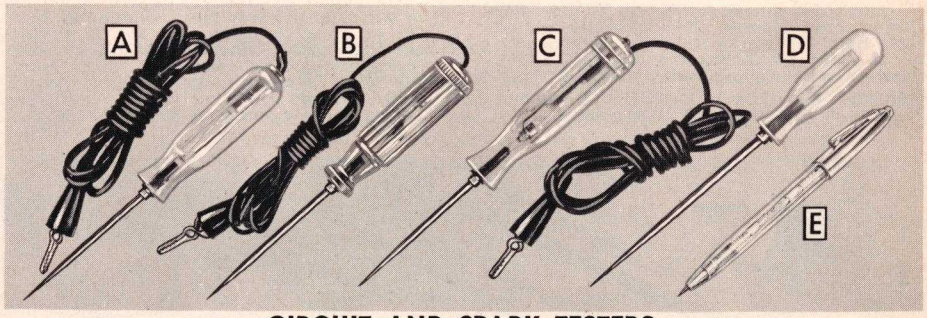
Ⓗ **GA-116 Wire Stripper.** As an aid when stripping a series of wires an adjustable guide on the head of the tool can be set to remove ¼″ to 1″ of insulation with every squeeze of the handle, leaving the wire clean and ready for connecting. The specially hardened jaws are easily replaceable and have 6 openings to handle 8 wire sizes from 8 thru 22. An adjusting screw regulates how close the jaws come together to further assure proper stripping of various types of insulation wire.

GA-116-2W-1 Replacement Blades, set of 2.

Ⓙ **GA-44A Flywheel Turner.** Saves crawling out from under while you place the crank shaft to the exact desired position. Spring tension holds the tool fast to the flywheel leaving both hands free for work. A real time saver on clutch work, bearing work, ring installations and other jobs. The tool is also useful for holding outboard motor flywheel while the nut is torqued.

Ⓚ **GA-111A Mechanics Stethoscope** saves time in locating and diagnosing any engine sound such as bearing noise, knocks, squeaks in fan or water pump, valve tappets, etc. Tells you where the trouble is before you start work. Stethoscope has sound amplifying diaphragm and shock-proof plastic shaft. Comes complete with 6″ probe and an additional 12″ extension probe.

Ⓛ **S-8164A 5/8″ Double Hex "Boxocket"** with ½″ square drive for a wide variety of application such as: Cummins Diesel compressor base bolts; cylinder head and starter removal on Rambler; cylinder head torquing on most GMC V-6 and V-8 gas engines and most GMC Diesels; several applications on Buick and Olds; many job applications on Dodge, DeSoto and Chryslers; steering arm lock nuts on Farmall tractors and Co-op tractors. This wrench is 9¼″ long.



CIRCUIT AND SPARK TESTERS

Ⓐ **CT-4B Circuit Tester.** This handy professional mechanics tester has 2 to 18 volt direct current capacity. Checks shorts, breaks, grounds in wiring, ground in field coils, loose connections, sticking relay points, burned out bulbs, etc. It makes trouble shooting fast and easy and really aids in speeding electrical repair jobs. Sharp pointed steel prod is securely anchored in the handle . . . Shank bolster prevents the prod from being pushed back into the handle. The semi-transparent plastic handle has high dielectric strength and the alligator ground clip has a rubber boot. Metal cap in end of handle prevents the 6-foot long ground cord from pulling loose from internal connections — and unscrews to permit easy bulb changes. Ground the tool on the car then push the point through the cable insulation to contact the conductor. Make tests with the engine turned off.

Ⓒ **CT-6 Circuit and Spark Tester.** Can be used on 6 or 12 volt ignition systems to check for shorts, breaks, grounds in wiring or to check field coils, stuck relay points, burned-out indicator lights, etc. As a spark tester its neon tube can locate mis-firing or shorted spark plugs. Handle is clear plastic in contour grip design. A switch in the crown moves to let you select the "spark" or "test" position. A live circuit causes bulb to glow. The sharp point pierces insulation to speed the job and the alligator clip grounds the tool to eliminate shock hazard. Tool is 8″ long and has six-foot cord.

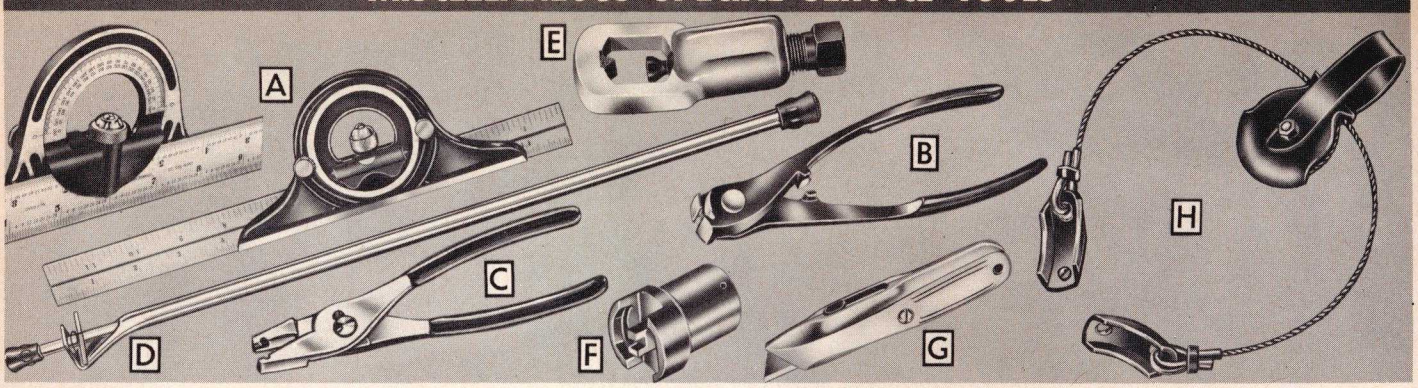
Ⓑ **CT-5 Polarity and Circuit Tester.** Similar in all respects and appearances to the CT-4A above except it has a diode built into it for polarity tests. Use for testing battery polarity, polarity of circuit, etc. Positive current causes neon bulb to light; negative current will not. In testing circuits, be sure to have correct polarity.

Ⓓ **SSTP-5 Spark Tester.** Ignition systems used on late model cars are completely shielded so you can no longer make contact at the spark plugs with standard spark testing screw drivers. This tool consists of a transparent plastic handle with a neon tube fitted into it and a tapered prod with a very sharp point. In use this prod is pushed through the insulation of the high tension leads to contact the wire. Intensity of the neon flash indicates condition of the spark.

The handle is shock resistant, even to the high voltage current encountered. Blade bolster prevents the blade from pushing through the handle.

Ⓔ **STP-6 Spark Testing Tool.** Works on 6 or 12 volt systems . . . does not require grounding. Helps find misfiring and shorted spark plugs quickly. This pen-type tester has a transparent high dielectric plastic body, neon tube and retractable sharp pointed prod. Press the end button to extend the point, push it through spark plug lead insulation and the neon flash intensity indicates spark condition. Chrome cap has handy pocket clip.

MISCELLANEOUS SPECIAL SERVICE TOOLS



Ⓐ **GA-282 Protractor-Level** with 12″ scale. Measures the drive shaft angle, engine angle, pinion shaft angle and has numerous applications on air ride suspension system, torsion bars, etc. Highly accurate, revolving turret protractor attached to an adjustable sliding 12″ rule graduated in 8ths, 16ths, 32nds and 64ths. Turret graduated to 90° on either side of 0. A bubble level is attached to side of turret, easily replaceable. Turret base is 7″ long and ¾″ wide. Rugged and highly accurate, will withstand hard usage.

Ⓑ **HCP-50 Hose Clamp Plier.** For proper installation of the Keystone-type clamps used on many smaller diameter hoses for the heater, gas line, etc. These clamps have a "C" shaped crimping section which bottoms on the head of the pliers and is gripped on its flats by the plier jaws. Applied pressure tightens the clamp without distorting it. Jaw-stops keep jaws from closing completely to prevent possible damage to the clamp. The ½″ wide handles have rounded corners for a comfortable grip. The polished jaws are ½″ wide. Overall length is 7¼″. Black finish.

Ⓒ **HCP-48BP Hose Clamp Pliers.** Two position slip joint model for ¾″ to 2″ diameter Corbin hose clamps. The specially milled jaws hold the clamp securely in line with or at right angles to the handles. Black finish, handles covered with plastic. 8″ long.

HCP-46BP Same as HCP-48BP but smaller. Handles ¾″ and smaller hose clamps.

Ⓔ **NC-51 Nut Splitter.** Quickly and easily removes nuts rusted or frozen in place. The heavy duty forged body encircles nuts up to ⅞″ across the flats. The hardened cutting chisel is held in the housing with a friction ball. The cutting edge is slanted and can be used in either of two positions for best splitting action. Pressure screw is offset to provide clearance and has a swivel pad for maximum contact with the nut. Do not use with power wrenches

NC-51-3 Extra cutter for above.

Ⓓ **GA-37A Hood Jack.** No cogs, catches, pumping or screwing is necessary to extend or lock this unit . . . just press the release lever and slip the push rod out to any desired length. Sturdy ⅝″ aluminum frame with a solid push rod. It fits all cars and has rubber tips on both ends to prevent slipping. 28″ closed length, extends to 52″.

GA-37A-1 Large Replacement Tip.

GA-37A-2 Small Replacement Tip.

Ⓕ **A-172 Standard Bung Socket** for use with ½″ square drive ratchet or impact wrench for easy removal of screw-in bungs on all drums. Saves time, eliminates damage to bung or drum and avoids skinned knuckles. Steel construction, black finish. Socket fits around outside of small bungs, the inside of large bungs, enabling the specially shaped housing or spring-loaded tongue to grip bung tightly.

Ⓖ **GA-169 Utility Knife** with five double-pointed alloy steel blades. Has hundreds of uses. Cast aluminum handle provides good, firm grip—has spare blades stored in it. Safety slide lock allows the blade to be locked in either of three positions.

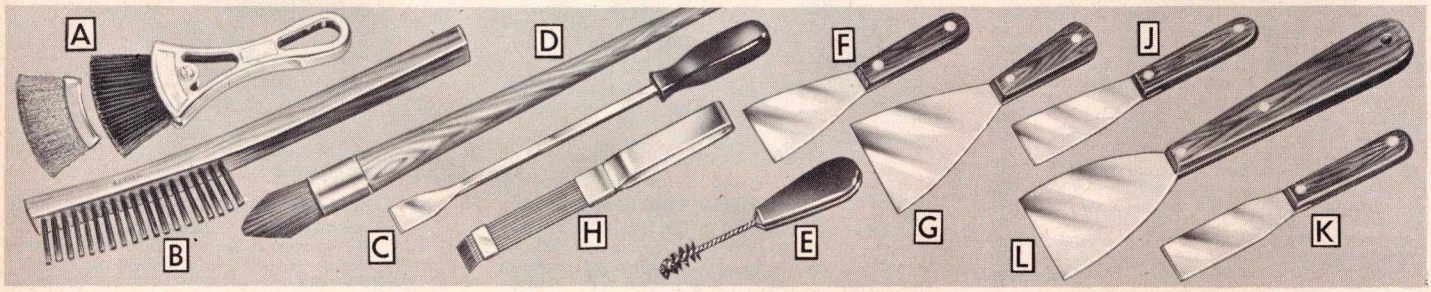
GA-169-5 Pack of five replaceable blades.

Ⓗ **Engine SAF-T-LIF.** This unit bolts to the cylinder studs on any engine and provides ample angle adjustment for raising and lowering engines in close quarters. Extra safe—it is tested for a 2 ton lift . . . and the hook adaptor fits lifts with large or small hooks. The Saf-T-Saddle permits the cable to be moved to the best lifting position but will not slip out of position under load. The flexible preformed, steel aircraft cable has attached end fittings drilled to fit ½″ diameter studs.

Two sizes of Saf-T-Lifs are available. The GA-76B standard model is 30 inches long and comes complete with a universal hook adaptor. The GA-77B has a 36″ cable for most V-8 engines and includes the hook adaptor. These tools give you a dependable, easy, safe method for handling engine removal and replacement jobs.

GA-76B.....**SAF-T-LIF with Hook Adaptor.**

GA-77B....**Long SAF-T-LIF with Hook Adaptor.**



WIRE BRUSHES AND SCRAPERS MAKE "CLEAN-UP" WORK SIMPLE AND EASY

Ⓐ PARTS CLEANING BRUSH

Two piece aluminum handle is rust proof and spark proof for maximum safety when used with volatile solvents. Chemically treated replaceable bristles resist solvents and are anchored solidly in metal section. A nickel silver wire refill is available for cleaning threads. A brass screw clamps the parts together.

GA-81.....**Brush with bristle head**
GA-81-2.....**Natural bristle refill**
GA-81-3.....**Nickel silver refill**

Ⓑ STANDARD WIRE BRUSH

AC-58B Wire Brush. Do not confuse this high quality brush with the ordinary ones that give you limited life and usefulness. This brush, while inexpensive, has high quality, stiff wire bristles that have a lot of "spring" for long life.

Ⓒ RIGID CARBON SCRAPER

CSA-12 Carbon Scraper. Forged ¼″ square shank flared out to 1″ scraping width. Blade is slightly curved to allow tip to lie flat against work. Blade solidly anchored in plastic handle. Overall length 12″.

Ⓓ PARTS CLEANING BRUSHES

Long life nylon bristles provide hard wearing abilities with flexibility to do cleaning jobs quickly and easily. Long handles and tapered heads get into restricted places to do a fast job.

GA-173.....**Small Brush.** 8½″ overall length.
GA-174.....**Medium Brush.** 10″ overall length.
GA-157.....**Large Brush.** 15½″ overall length.

Ⓔ TAIL LIGHT SOCKET BRUSH

AC-41A Cleaning Brush for Tail-Light Sockets. Stiff wire bristles remove rust, dirt and corrosion and clean socket and contacts with just a few quick twists. Assures positive bulb contact. The shaft is heavy gauge twisted wire that is wrapped around the edge of the flat wood handle. Handle provides a good, firm grip. Tool is 7¼″ long.

WOOD HANDLE PUTTY KNIVES

Especially useful for spreading plastic material used in filling automobile body dents. Rosewood handles will not dissolve in this plastic. Have mirror finish blades, will withstand long service. Blades semi-flexible.

Ⓕ **PK-20** ..... 2⅛″ blade Scraper
Ⓖ **PK-40** ..... 4″ blade Scraper

Ⓗ FLEXIBLE CARBON SCRAPER

CS-1 Flexible Wire Carbon Scraper. Ten blades of high quality oil tempered spring steel. Flexibility controlled by a sliding ferrule. Does excellent work.

SCRAPER BLADES

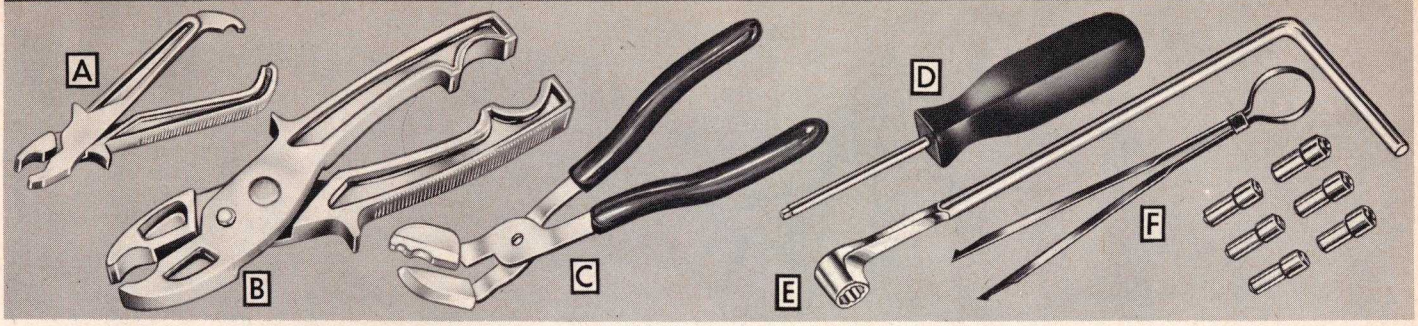
High quality scrapers for removing old gaskets, paint, undercoating, grease, etc. The alloy steel blades are ground to uniform thickness for proper degree of stiffness and "mirror" finished for easy cleaning and to retard rusting. Light rosewood handles do not shrink. Blades are firmly riveted in place.

Ⓙ **PK-22**.....**Straight Scraper 1½″ blade**
Ⓚ **PK-23**.....**Chisel edge Scraper 1½″ blade**

Ⓛ HEAVY DUTY SCRAPER BLADE

PK-31 Heavy Duty Scraper Blade. Has all of the good quality features of the scrapers listed above but has an extra big blade, 3″ wide and 4⅛″ long with an extra long handle. 7⅝″, to give that extra power needed to bear down on that tough job. Stiff, "mirror" finish blade is securely riveted to wood handle. Blade has chisel edge. Overall length is approximately 11¾″.

MISCELLANEOUS SPECIAL SERVICE TOOLS



PLASTIC FUSE TONGS

Molded from pure plastic they have high insulating qualities, are resistant to oil, water and acid and have an impact strength which makes them practically unbreakable in proper use. They are also heat resistant to 300° F. Both tools are yellow. Ribbed handles gives a firm grip, safety stops help prevent your hand from slipping over the jaws and onto "live" electrical parts.

Ⓐ **FZ-4A DELRIN PLASTIC FUSE TONG.** 4″ long and useful for pulling automotive fuses but has applications in electronic work. The jaws are 5/16″ wide and grip fuses up to 3/8″ diameter. The 1/8″ thin hook on one handle and small indentation on the other are used to remove and hold short fuses with clamps close together.

Ⓑ **FZ-7 NYLON FUSE TONG.** For removing high tension wires on automobiles while the engine is running and in conjunction with the SNAP-ON Anal-O-Scope and test meters. This 7 1/4″ long tool will pull cartridge fuses from 5/16″ up to 1″ diameter. This tool is useful in industrial plants for use on control boards, fuse panels, consoles, etc.

SPARK PLUG TERMINAL PLIERS

Ⓒ **GA-239 Pliers.** Eliminate exposure to the shock hazard of 20,000 (or more) volts when disconnecting spark plug terminal leads during testing operations. This new tool has "Delrin 500" plastic jaws to withstand this voltage. 45 degree angled jaws provide the necessary clearance to keep your hand away from hot manifolds to eliminate burns. Two sizes of jaw openings handle a variety of applications.

SQUARE TIP SCREW DRIVER

Ⓓ **S-8698 7/64″ Square Tip Screwdriver.** Specially designed for servicing cab panels in trucks made by Ford, Kenworth and other manufacturers. Recessed, square-headed screws are used to hold truck-cab roof and side panels in place on many new trucks. These fasteners require a special driver of this nature to service them. This driver has a 7/64″ square tip — the size needed for insertion into these screws. Its blade length is 2 3/8″. The contour grip handle enables a firm yet comfortable grip and is virtually unbreakable.

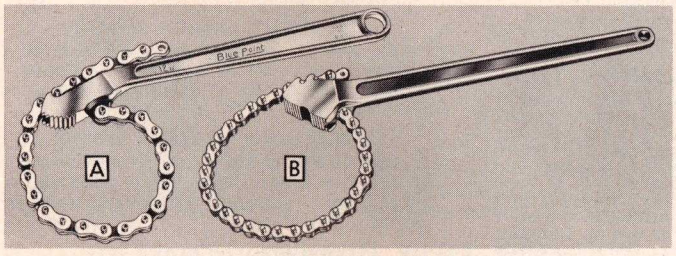
FAN BLADE WRENCH

Ⓔ **S-9470A Fan Blade Wrench.** This 1/2″ double hexagon socket-type wrench lets you remove those hard-to-get-at fan blades quickly and efficiently without skinning your knuckles. Designed for use on most late model cars, it will fit easily into the restricted area between the radiator and fan belt and seats quickly on the fan blade nuts. Simply remove the fan belt, position the wrench on one of the fan blade nuts, hold the wrench in place with one hand and turn the fan blade with the other hand. The special "L" shape of the wrench lets you get a firm grip on the handle, yet leaves your hand clear of obstructions that could cause injury. Overall length is 11 5/8″.

HEAD ALIGNMENT DOWEL SET

Ⓕ **CF-83 Head Alignment Dowel Set.** Drop the dowels in place, lay gasket over them and set the head in place without danger of deforming the gasket or need to slide the head or gasket back into place. Then start head bolts in other holes. Use the retriever to pull the dowels. Use whenever fast drying sealants are used on the head gasket. Set consists of retriever, three 7/16″ and three 1/2″ bolt dowels.

CHAIN WRENCHES FOR GRIPPING ROUND OR IRREGULAR OBJECTS

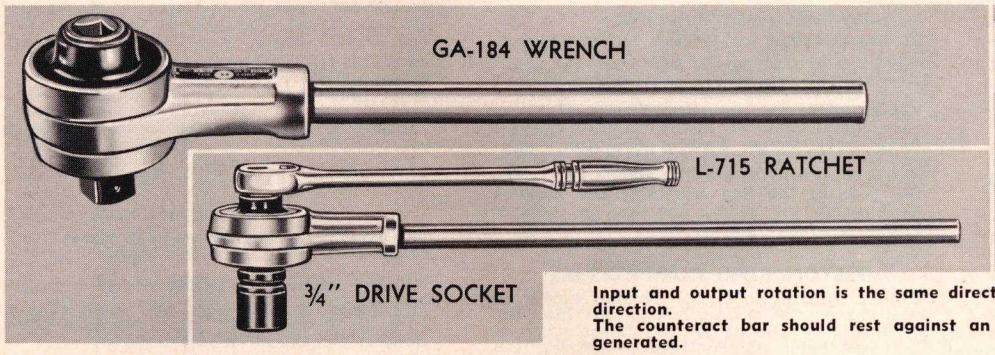


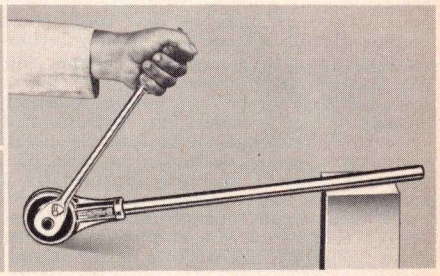
Ⓐ **CW-12 Chain Wrench.** 16 1/2″ long chain provides a capacity of from 7/8″ to 4″ diameter. A 12″ handle provides ample leverage for even the tough-to-turn jobs. The inside portion of the handle has deeply cut teeth which will bite into the object and provide a firm grip.

The chain is detachable from the handle for easier installation on some turning jobs.

Ⓑ **CW-15 Chain Wrench.** Has double lock to hold the chain. Chain is 19 1/2″ long and provides a capacity of 1/4″ to 5″ diameter for gripping round or irregular shaped objects. Handle is 15″ long.

Ⓑ **CW-24 Chain Wrench.** The same double lock head as the CW-15 but with a 24″ long handle and 23″ chain.





Input and output rotation is the same direction. Rotation of the counteract bar is in reverse direction.
The counteract bar should rest against an object sturdy enough to withstand the force generated.

X-4 GEARED HEAD WRENCHES MULTIPLY APPLIED TORQUE FOUR TIMES

When using an X-4 Geared Head Wrench the worker seldom needs to exert all his energy on weight to do the job and can exercise better control. Since the turning force applied is a steady pressure with no appreciable shock the work life of the socket wrenches used is prolonged, possibility of damage to expensive equipment through breakage is greatly reduced — and the chance of the operator slipping or straining is minimized. The user requires no assistance in applying the needed nut turning power and the compact size of the geared wrenches allow their efficient use when space limitations prohibit the use of long handle extensions.

Operation is through a set of planetary gears coupled to male and female square drives on opposite sides of the head. Removing four screws disassembles the entire geared head for cleaning and lubricating. Two X-4 Wrenches may be used in combination to provide a 16 to 1 input-output ratio.

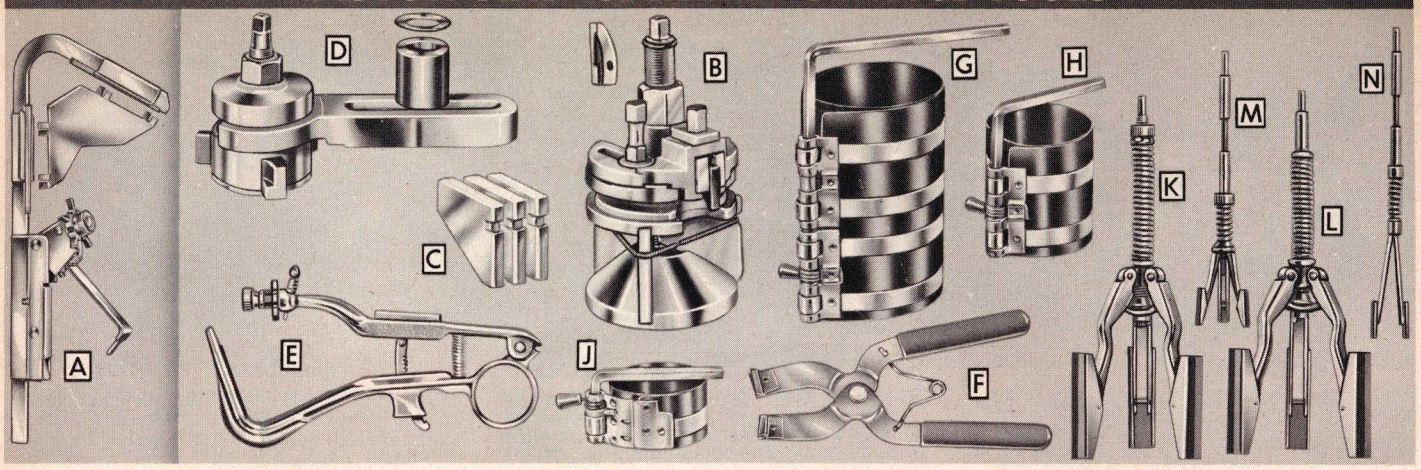
A torque wrench can be used with X-4 Geared Wrenches but should be used only when limited accuracy is sufficient. Frictional effects and point of possible contact of the counteract bar both affect the torque reading accuracy.

The head is held onto the bar by a spring tensioned ball and the output square drive also has a spring tensioned friction ball. Possible uses of the wrenches include general assembly or disassembly work, maintenance work in factories, shipyards, ordnance plants, etc., or for work of any kind where extreme nut or bolt turning power is needed.

Models and Specifications

Stock Number	Input Sq. Dr.	Output Sq. Dr.	Gear Ratio	Rated Capacity
GA-184	1/2″	3/4″	4:1	1250 ft. lb.
GA-185	3/4″	1″	4:1	2000 ft. lb.
GA-186	1″	1 1/2″	4.33:1	4000 ft. lb.

PISTON AND CYLINDER SERVICE TOOLS



Ⓐ RING GROOVE CLEANER

RC-510 Ring Groove Cleaner. Removes carbon quickly and easily. . . . Works on all size pistons from 1″ to 5″ in diameter.

A rack and pawl mechanism lets you adjust the tool for different size pistons by simply squeezing the handle and sliding the handle position up or down the main frame. Releasing the handle locks the cutter assembly in position and a strong coil spring keeps the blade in the ring groove.

When positioned, simply rotate the tool around the piston to remove carbon — one or two revolutions will usually suffice. With very soft carbon deposits, it is best to release some of the spring pressure by squeezing the handle during the cleaning operations.

Two cutter wheels — each with five blade sizes — are included. The RC-510-1 has blade sizes of: 5/64″, 3/32″, 1/8″, 5/32″ and 3/16″, while the RC-510-2 has sizes of: 1/16″, 5/64″, 3/32″, 5/32″ and 3/16″. The RC-510-3 plate adaptor, which wedges firmly into the frame of the tool, enables servicing pistons from 1″ to 2¾″ diameter.

RC-510-1 Replacement Cutter Wheel.

RC-510-2 Replacement Cutter Wheel.

RC-510-3 Replacement Adaptor Plate.

RC-510-6 Replacement Knurled Nut.

Ⓑ CYLINDER RIDGE REAMER FOR NEW ANGLE BLOCK ENGINES

3″ to 5″ Capacity

WR-30 Ridge Reamer designed to work equally well on both the new angle block engines as well as those with straight blocks.

Of multiple piece, die cast construction, this unit consists of two main assemblies and a threaded feed screw. The bottom assembly consists of a cone shaped base with 3 milled slots, three jaws (which fit into the slots), and a plate located on top of the jaws. The jaws are notched and are encircled by a spring, which applies tension on the jaws to keep them aligned during use. The top assembly consists of a feed plate, a carbide cutter which is attached to a cutter carrier, cutter locator button, cutter eccentric, driver nut and a cutter carrier locking screw. The feed screw threads through the center of both assemblies and has very fine threads for accurate adjustment.

The tool is designed so that it automatically centers itself in the cylinder. An impact wrench *may* be used in conjunction with the unit on extreme cases, however, a deep 13/16″ socket and handle plus a 3/8″ open end wrench or "Boxocket" is all that is needed in most instances.

Complete instructions are packed with each tool.

WR-30-1 Replacement Cutter Bit.

Ⓒ **WR-30-15.** Set of jaws to adapt the WR-30 Ridge Reamer for use on Falcon, Corvair and some other compacts. Simply slip out the standard jaws and replace them with these special jaws.

Ⓓ CYLINDER RIDGE REAMER FOR CARS AND TRUCKS

2-9/16″ to 6″ Capacity With the Extra Set of Cutter Blades

WR-25 Ridge Reamer. An expanding cutter type reamer with two sets of blades giving a capacity of 2 9/16″ to 4 7/8″.

Three expanding cutters act as self-centering agents and are so shaped that only the top portion of the blade does the actual cutting while the bottom section acts as a guide to prevent chattering and undercutting. The reamer is supported in the cylinder by means of the clamp which is slipped over a stud and bolted to the cylinder block. Blades are adjusted by means of the square head screw on top of the tool and the reamer is turned by means of the large hex on top of the housing. Two sizes of cutter blades are furnished with the set to handle cylinders up to 4 7/8″, however, an extra set of blades is available to increase the capacity to 6″. Complete with wood case.

Replacement Blades

WR-25-3 Set of three blades 3¾″–4 7/8″
WR-25-4 Set of three blades 2 9/16″–3¾″
WR-25-5 Set of three blades 4 7/8″–6″

Ⓔ RING GROOVE CLEANING TOOL

RC-500 Ring Groove Cleaning Tool. Removes the hardest carbon deposit without injury from pistons with 5/64″, 3/32″, 1/8″, or 3/16″ ring grooves and diameters from 2½″ to 5″. Flange in the hook fits into groove and holds piston securely yet allows it to turn freely. Cutter blade quickly changed. Self aligning feature prevents cutting into groove walls. Threaded guide is for use on Chrysler products and other pistons. Jaws are easily locked or released.

RC-500-1 Replacement Cutter Blade.

RC-500-11 Cutter for 1/4″ and 5/16″ grooves.

Ⓕ PISTON RING SPREADER

PRS-8A Piston Ring Spreader. Here is a tool for easy installation of piston rings from 3/64″ to 1/4″ thick. Its use assures minimum breakage or distortion of rings and does the job quickly. Simply slip the ring opening into the jaws of the tool and close the handles to expand the ring. The tool is copper plated with red plastic handles. 7″ long.

PISTON RING COMPRESSORS

Clutch control holds the tension bands in position as the piston is inserted into the cylinder. "V" beads on the lower edge of the belt keep the tool from entering the cylinder. ½″ wide spring steel bands equalize the tension over the width of the belt, so that the ring assembly, no matter how stiff, may be compressed into the grooves until flush with the piston.

The RC-40C may be used upside down when working on Chevrolet, Mercury, Edsel, and Ford Trucks with angled block.

Ⓖ **RC-150A Compressor.** 4-band model. 3½″ to 7″ capacity, depth 6½″.

Ⓗ **RC-40C Compressor.** 2-band model. 2⅛″ to 5″ capacity, depth 3½″.

Ⓗ **RC-50C Compressor.** 2-band model. 3½″ to 7″ capacity, depth 3½″.

Ⓙ **RCL-30 Compressor.** 1-band model. 2½″ to 5″ capacity, depth 1″.

IMPROVED GLAZE BREAKERS

These new, improved Deglazing and Resurfacing Hones are designed for fast, accurate honing of cylinders in diameters from 2″ to 7″. A spread limiter limits hone diameter for general work or expands hone for large diameter cylinders . . . permits fast cylinder to cylinder change. The spring action gives the right pressure for positive glaze breaking using high or low speed ¼″ or ½″ chuck electric drill. These hones are self-centering and self-bottoming. A powerful arm design keeps abrasive pads accurately in line. *Note:* Lubricate while honing, use kerosene or light oil. Flexible shafts and abrasive stones are subject to abuse and should be used with care.

Ⓚ ADJUSTABLE TENSION MODELS

CF-60C. For 2″ to 5¼″ diameter cylinders. Furnished with eighteen abrasive cloths, 3″ long. Cloths are easily changed.

CF-60CS. For 2″ to 5¼″ diameter cylinders. Furnished with (3) 3″ medium grit stones.

CF-62CS. For 2″ to 7″ diameter cylinders. Furnished with (3) 4″ medium grit stones.

Ⓛ PRESET TENSION MODELS

CF-61. For 2″ to 5¼″ diameter cylinders. Furnished with (3) 3″ medium grit stones.

CF-62A. For 2″ to 7″ diameter cylinders. Furnished with (3) 4″ medium grit stones.

REPLACEMENT ABRASIVE CLOTHS

For CF-60C and old style CF-60 Hones

CF-60C-1. Set of 18, 3″ medium grit cloths.

CF-60-1. (For old style CF-60.) Set of 18, 2″ medium grit cloths.

REPLACEMENT STONE SETS

For CF-60CS and CF-61 Hones listed above or old style CF-62. Can also be used on CF-62A and CF-62CS above.

CF-61-12S. (3) 3″ Medium grit stones.
CF-61-14S. (3) 3″ Fine grit stones.
CF-61-100. (3) 3″ Coarse grit stones.

For CF-62A and CF-62CS Hones listed above or old style CF-62.

CF-62-12S. (3) 44″ Medium grit stones.
CF-62-14S. (3) 4″ Fine grit stones.

For old style CF-60S Hone

CF-60SB-12. (3) 3″ Medium grit stones.
CF-60SB-14. (3) 3″ Fine grit stones.

SMALL CYLINDER HONES

For brake cylinder work and small engines such as Volkswagen, etc. Lubricate while honing — brake fluid is satisfactory.

Ⓜ **B-200.** For ¾″ to 2½″ diameter cylinders. Furnished with 3 medium grit stones, each 3/16″ x 1⅛″ long.

B-201. Set of 3 medium grit stones for B-200 and old CF-63, each 1⅛″ long.

B-202. Set of 3 fine grit stones for B-200 and old CF-63, each 1⅛″ long.

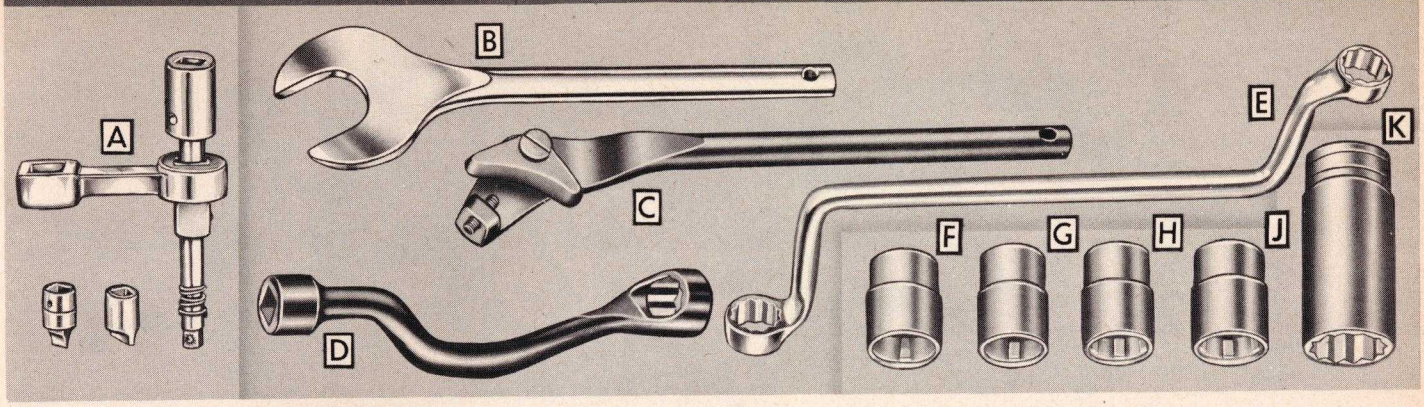
JT-63-21. Set of 3 medium grit stones for B-200 and old CF-63, each 2″ long.

JT-63-24. Set of 3 fine grit stones for B-200 and old CF-63, each 2″ long.

Ⓝ **JT-64.** A 2-arm hone for ½″ to 2¼″ diameter cylinders. Furnished with 2 medium grit stones, each 1⅛″ long.

JT-64-1. 2 medium grit stones for JT-64.
JT-64-14. 2 fine grit stones for JT-64.

SPECIAL TOOLS FOR CUMMINS DIESEL



Ⓐ **M-1302A Torque Adaptor Set.** For loosening lock nuts, adjusting valves and injectors and for final torquing of these units to the manufacturers' specifications. Use with our F-40A Handle, TQ-150 "Torqometer," TQ-12B "Torqometer" and with our S-261, S-281 and S-301 sockets. Set includes two screw-driver sockets TM-82 and M-1302A-4A for valve and injector adjusting screws.

Ⓑ **Fan Mount Nut Wrenches.** For loosening and retightening the fan mount nut on Cummins Diesels in order to adjust the fan belt to the proper tension. Their slim design permits quick access to the fan nut for a quick adjustment. Each wrench is 15" long, head width is 4¼", head thickness 1 1/32", handle diameter ⅞".

M-1307 2 3/16" size (Cummins 832).
M-1308 2" size (Cummins 845).
M-1309 2⅜" size (Cummins 846).
M-1313 1 1/16" size (Cummins ST-892).
M-1314 2 1/16" size (Cummins ST-893).
M-1315 2½" size (Cummins ST-891).

Ⓒ **M-1306A Engine Turning Tool.** Needed to turn the engine over when adjusting valves and injectors, timing and many other adjustment operations. Turns the auxiliary pulley without causing damage to it.

Ⓓ **M-1301B Cummins Head Bolt Torque Adaptor.** This 1¼" Boxocket handles the head bolts located around the water manifold jacket of Cummins model "H" diesel engines without removing the manifold. The wrench is 12" long. Drive end fits ¾" square drive handles or our TQ-602A "Torqometer" needed to torque these bolts to the required 450 foot pounds.

Ⓔ **M-1310 Valve and Injector Wrench.** ⅞" and 1" double offset Boxocket wrench designed for fast and efficient service of lock nuts when adjusting valves and injectors. The offset heads provide plenty of clearance. Tool is 13" long.

Injection Cup Sockets. For the removing and installing of injection cups on Cummins Diesel engines. Each socket has equally spaced shallow splines which slip over the splines on the injection cup to provide fast, safe and easy turning power. Sockets have ½" square drive.

Ⓕ **M-1303** 3-spline for 1" cup.

Ⓖ **M-1304** 3-spline for ⅞" cup.

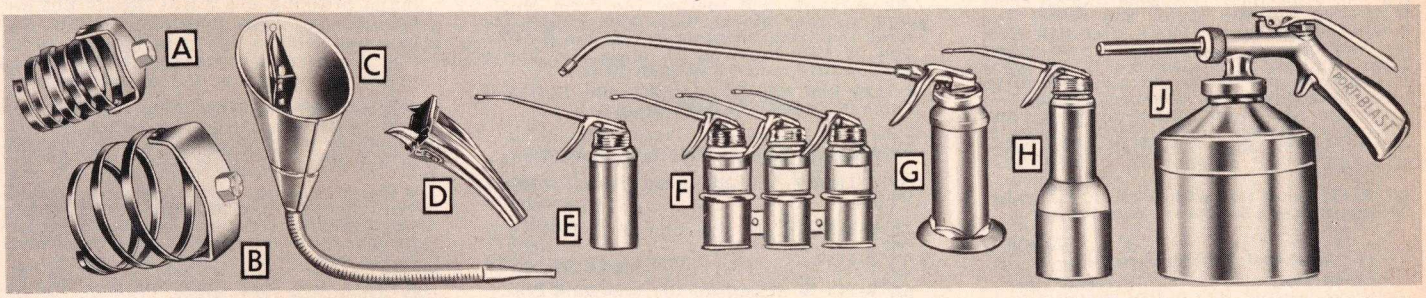
Ⓗ **M-1311** 6-spline for ⅞" cup.

Ⓙ **M-1312** 6-spline for 1" cup.

Ⓚ **M-1316 Fuel Injector Cup** [illegible]

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NOT AVAILABLE



OIL AND FUEL FILTER WRENCHES — OIL SPOUTS — OILERS — SAND BLAST GUN

Oil And Fuel Filter Wrenches. Designed to remove standard "spin-on" filters. Applied pressure is distributed over the full surface of the filter, preventing splitting or crushing the filter. After placing the tool over the filter use a ¾" hex socket and suitable handle to apply turning pressure . . . continued pressure grips the filter securely to break it loose and remove it. These tools will not replace filters.

Ⓐ **GA-177 Fuel Filter Wrench.** For use on smaller fuel filters found on some Ford products.

Ⓑ **GA-178 Oil Filter Wrench.** Approximately 5¾" long.

Ⓒ **GA-96 Automatic Transmission Filler Unit.** Permits fast and easy operation when filling automatic transmissions and is equally useful when working on trucks, tractors, etc. The 8½" wide oval funnel is made with one side two inches higher than the other to prevent overflow when held at an angle. The funnel has a can puncturing device attached and a filter screen set in the base. Total length is 30 inches including a 4½" tapered nozzle and 14½" of flexible cable hose. Made of steel with a coppered finish.

Ⓓ **GA-276 Flip-Spout.** This new unit makes it amazingly fast and easy to open any can (it works like a beer can opener). You can use it on Plastic, Fiber, Tin-Plate and Aluminum, 1, 4 and 5 quart cans. The Flip-Spout gives you these advantages . . . positive gripper for rim of can . . . hardened steel cutting spear . . . hardened steel holdfast barb . . . leak-proof gasket . . . large ¾" inside diameter opening for fast pouring . . . extra long for hard to reach places . . . nickel-plated.

Ⓔ **OC-5A Small Pressure Oiler.** Capacity 5 ounces. A squeeze of the trigger delivers either a drop or a fine stream of oil. The long tapered spout is 5½" long, its removable screw-on tip has a shoulder to facilitate lifting the spring loaded oiler caps. O.D. is only 1⅞", finished in copper paint. Includes a base holder.

OCH-5 Oiler Holder. (Not shown.) Fastens to wall or bench to hold OC-5A oiler listed above.

Ⓕ **OC-40 Oiler Set.** Consists of three 5 ounce pistol oilers, finished in aluminum, bronze, and red, complete with a triplet-type wall holder. Use the oilers for various types of lubricant, penetrant, or solvent and the colors identify the contents.

Ⓖ **OC-612 Generator Oiler.** Holds six ounces of liquid and is equipped with a 12" long spout. The detachable cone tip is easily removed for cleaning when necessary. Container has a flared base to hold the oiler in upright position on bench or shelf.

The oiler will prove very useful for oiling generators and other hard-to-reach places on new cars and machinery of all kinds where a long reach is needed. When working on engines, the long spout will keep the mechanic's hands clear of hot manifolds.

Ⓗ **OC-16 Pint Size Pressure Oiler** delivers either a drop or continuous stream of oil or any non-rusting liquid. Top section is 2" for easy hand grip, bottom is 3" for greater capacity, also prevents tipping. Tip has shoulder to facilitate lifting spring loaded oiler caps. Aluminum lacquer finish.

Ⓙ **GA-133A Sand Blast Gun** for removing scale, rust, paint and dirt. Also makes practical liquid blast gun for liquid cleaning. Will also siphon liquids directly from drum using a siphon tube. Sturdily built to give long service. Gun body, zinc die cast. All wear parts are ceramic. Uses air pressure of 100 to 150 P.S.I. Nozzle 3/16" I.D. Capacity container: 1 quart.

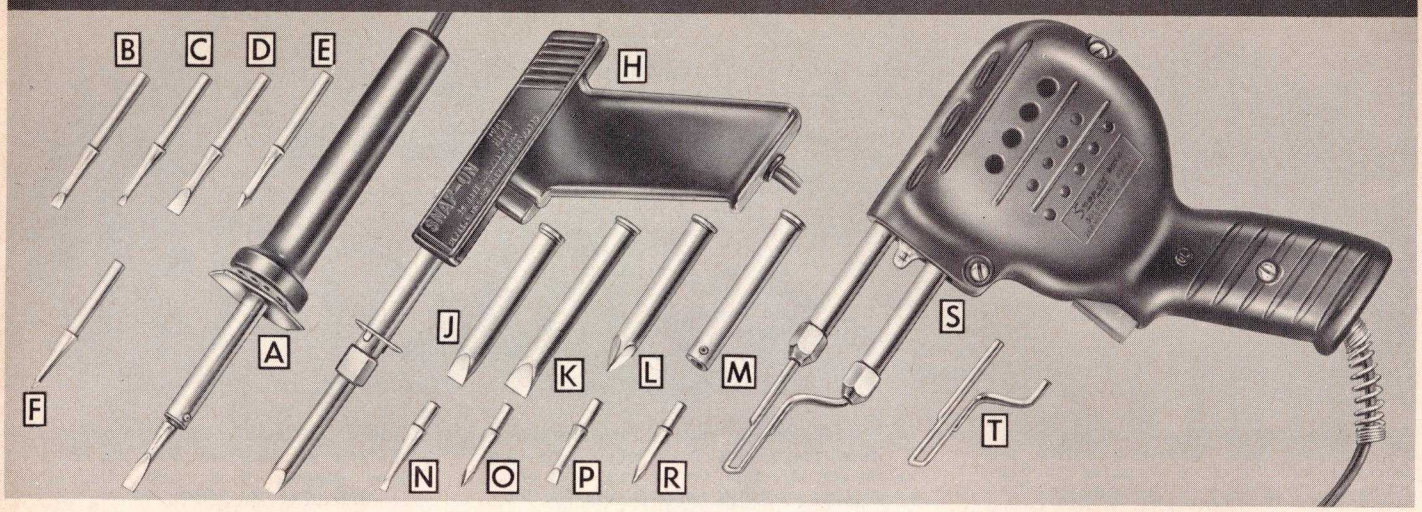
Important in the efficient use of the gun is the selection of the abrasive to suit the type and depth of surface texture desired and operating speed. This gun handles all types of abrasive, 16 to 1000 grit. Examine inner end of nozzle periodically . . . replace before it wears through completely.

GA-133-9 Ceramic Coated Nozzle. For use with above gun. Will resist pitting or wear up to eight times longer than steel. Not included with gun.

FLUSHING SOLVENT

AWS-16 One Pint Can of Flushing Solvent. Not illustrated. This is a special flushing oil and should not be used as a lubricating oil. It is used on air impact wrenches to flush dirt, sludge and other deposits out through the exhaust. Simply apply three or four squirts of the solvent into the air inlet of the wrench each day before using it. Special plastic spout on can prevents spilling the solvent. Do not flush the tool around fires. Be sure the tool exhaust is pointed away from you or others.

INDUSTRIAL TYPE ELECTRIC SOLDERING IRONS



IRONS WITH CONTROLLED TEMPERATURES FOR CONTINUOUS USE

These specialized types of soldering irons were engineered for electronics, radio, TV, and similar industries where a variety of soldered connections are made round-the-clock. They provide you with light weight, compact, easy-to-use irons that minimize operator fatigue and maintain a constant tip temperature for continuous operation.
Six foot cords have a Coroprex covering impervious to oil, grease, or temperature.

Ⓐ PENCIL IRON

This feather weight model gets into restricted areas for tiny soldering jobs such as sub-assembly on high speed industrial production work. It operates on 115 volt AC/DC and maintains a constant tip temperature of 850° F. at only 18 watts. Six various small sizes of copper tips provide a range of sizes and styles for every soldering job. Wipe these tips when hot to clean them — do not file them. The barrel and heating element form a one-piece unit with the end open to receive the tip. A slight taper about 1¼" from the end of the tip holds it tightly in the barrel yet allows it to be interchanged instantly. A hexagon collar prevents the iron from rolling and keeps the tip off the bench. Black plastic handle is shockproof and stays cool at all times. Overall length is 7½", weight 5 oz.

Ⓐ **R-130 Pencil Iron** with R-130-16 ¼" Chisel Tip only.

Additional Tips for Pencil Iron

Chisel Tips		Pyramid Tips	
Ⓑ	**R-130-12** 3/16"	Ⓔ	**R-130-13** 3/16"
Ⓒ	**R-130-14** ⅛"	Ⓕ	**R-130-15** ⅛"
Ⓓ	**R-130-16** ¼"		

R-1305 Set. The R-130 and R-130-12, -13, -14 and -15 tips.

Ⓗ PISTOL GRIP 2-SPEED IRONS

This iron goes to work fast . . . pressing the button shoots a booster charge of 100 watts within the tip — brings it to soldering heat in 40 seconds. Then, without using the button, 25 watts maintain 500° F tip temperature.
The hermetically sealed dual element is located entirely within the tip — right where you want the heat . . . element wires are non-corroding monel.
A sliding collar on the shaft keeps the hot tip away from the bench surface when laid down . . . yet pushes up the shaft to allow entrance through small openings. Phosphor-bronze switch has pure silver contact points — will not flash or arc.
For aircraft, and marine use from ship's supply order Model R-28. This model affords the same temperatures as the R-115C. The 28 volt input is 0.9 amps., at idling temperature, and 3.6 at high heat.
R-115C Iron 115 Volt AC/DC with R-115A-9 Tapered Chisel Tip only. Weight 10 oz.

Additional Copper Tips for Above Irons

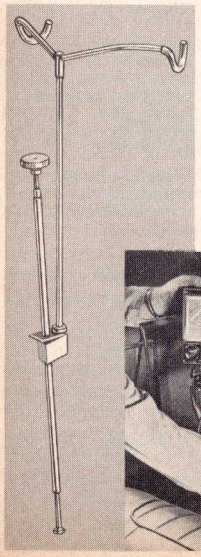
Ⓙ **R-115A-9**...⅜" diameter, Tapered Chisel Tip
Ⓚ **R-115A-10** .⅜" diameter, Full Chisel Tip
Ⓛ **R-115A-11**....⅜" diameter, Pyramid Tip
Ⓜ **R-115-16 Holder,** for the following tips:
Ⓝ **R-115-16-1**..... 3/16" diameter, Chisel Tip
Ⓞ **R-115-16-2**....3/16" diameter, Pyramid Tip
Ⓟ **R-115-16-3**.....⅛" diameter, Chisel Tip
Ⓡ **R-115-16-4** ....⅛" diameter, Pyramid Tip

Snap-on® INSTANT HEAT SOLDERING GUN

- **Faster Heat.** This heavy duty transformer type SNAP-ON soldering gun heats to solder melting temperature in only three seconds after you press the trigger . . . You eliminate waiting time and get the job done faster and more efficiently. Tip cools very rapidly when trigger is released and the switch cannot be locked in heating position.
- **Dependable Heat.** Every unit of the SNAP-ON Soldering Gun is engineered and built to give you long reliable service.
- **Replaceable Tips.** Special duty "Feraloy" plated tip withstands long use without bending or breaking and it will fit into tiny corners. Tip remains tinned indefinitely. Two hex nuts hold tip tightly in the split chucks . . . You get full wattage at the tip without arcing or burning at the contact areas.
- **Bright spotlight** is mounted in the housing and lights when trigger is pulled. Provides plenty of lighting on the job . . . no need to use extension lights.
- **Plastic Housing.** Side gridwork provides ventilation to the transformer. The large pistol grip handle is well rounded for a comfortable fit to the hand and the fine balance of the gun helps cut working fatigue.
- **Heavy Duty Cord.** Cord is 6 foot long and is fitted with a metal strain reliever that prevents kinking or breaking at that point.

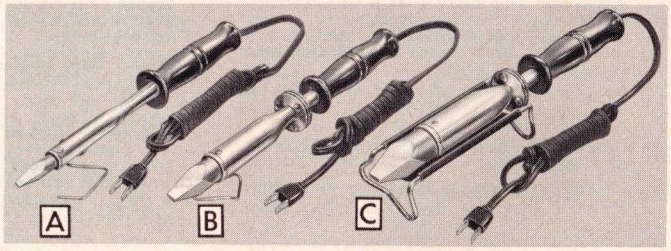
Ⓢ **R-250 Instant Heat Soldering Gun.** For 115 volt A.C. current only.
R-250-5 Replacement Bulb.
Ⓣ **R-250-20 Replacement "Feraloy" Tip.**

THROTTLE PEDAL DEPRESSOR



GA-266 Throttle Pedal Depressor. Permits fingertip control of engine R.P.M. — without getting into the car. Speeds up many jobs such as tune-ups, testing carburetors, setting the cam angle, setting voltage regulators, charging air conditioners, etc. It works very well in combination with our MT-715 Tach-Dwell Meter.
To use, simply hook the tool under the steering wheel with its "leg" resting on the throttle pedal. The wide, 2½" adjustable acceleration range lets you control the engine speed by turning a single knurled knob.
Plastic sleeves keep the tool from damaging the steering wheel. A ball-type swivel pad enables firm contact of the "leg" at any pedal angle, and the pad has a pointed tip to prevent slipping.





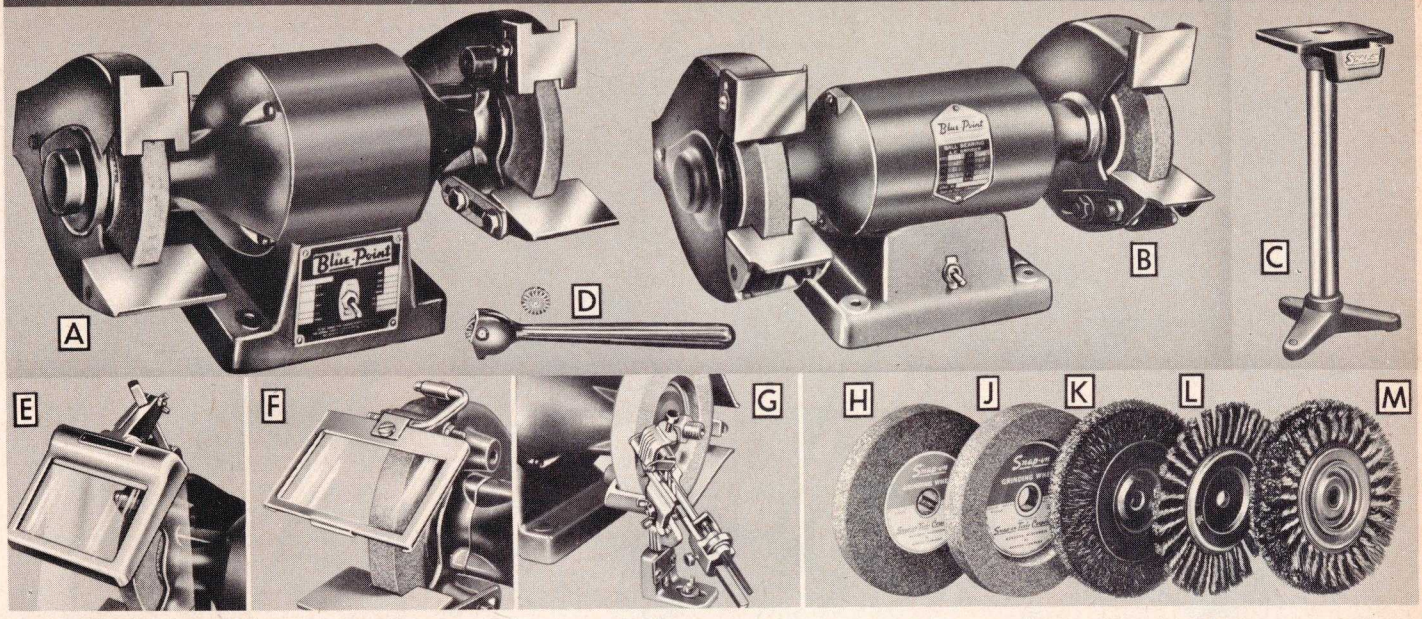
HIGH HEAT SOLDERING IRONS

Ⓐ **R-90 Soldering Iron.** ½" Screw Tip. Excellent for light duty jobs which require a small amount of soldering. Use with 110-120 volt AC/DC. Rating is 90 watts, 12½" long. Has a wire stand.
R-90-220V. 220 volt model. Special order only.
R-90-1. Extra ½" tip for above irons.

Ⓑ **R-150 Soldering Iron.** ⅞" Screw Tip. A 170 watt rated unit of medium size. It holds heat well and handles a wide range of work. Length is 13½" and it has a wire stand.
R-150-220V. 220 volt model. Special order only.
R-150-1. Extra ⅞" tip for above irons.

Ⓒ **R-300 Soldering Iron.** 1⅛" Screw Tip. Rated at 300 watts for continuous duty industrial and garage work. A heavy duty iron for any soldering job. 14½" long — platform stand provided.
R-300-220V. 220 volt model. Special order only.
R-300-1. Extra 1⅛" tip for above irons.

Blue-Point BENCH GRINDERS AND ACCESSORIES



SUPERIOR FEATURES OF THESE GRINDERS ASSURE SMOOTH, POWERFUL OPERATION

- **COMPLETELY ENCLOSED MOTOR:** Super powered, precision balanced motors are enclosed to prevent dirt, grit, etc., from entering motor or bearings.
- **BALL BEARING CONSTRUCTION:** Oversize labyrinth grease sealed ball bearings used throughout, assure smooth, long lived motor operation.
- **MOTOR:** Capacitor start on ½ H.P. models, split phase on ⅓ H.P. and ¼ H.P. models.
- **LARGE WHEEL GUARDS:** Wide, enclosed types provide protection and allow use of special shape wheels or wire brushes. Rear outlet can be connected to industrial exhaust systems. Guards are easily removed to permit changing wheels and are drilled for installation of eye shields and furnished with adjustable chip breakers.
- **BELL TYPE CONSTRUCTION:** On all models allows grinding of long pieces.
- **STURDY TOOL RESTS:** Are fully adjustable with ample take-up for wheel wear and may be tilted 0° to 60°.
- **LARGE RUGGED CAST IRON BASE:** Equipped with rubber feet to provide solid mounting free from vibration. Has recessed bolt openings for permanent mounting.
- **WIRING:** The ½ H.P., ⅓ H.P. and ¼ H.P. models listed have grounding type 3-wire cord and 3-prong plug.

STANDARD MODELS AVAILABLE

NOTE: These grinders come equipped with top quality grinding wheels, one "Coarse" grit, the other "Fine" grit.

Ⓐ **BG-500 Grinder, ½ H.P. Motor.** Single phase, capacitor start. Complete with guards.

Ⓑ **BG-333 Grinder, 1/3 H.P. Motor.** Single phase, split phase start. Complete with guards.

Ⓑ **BG-250B Grinder, ¼ H.P. Motor.** Single phase, split phase start. Complete with guards. Appearance similar to the BG-333.

NOTE: BG-500 and BG-333 are available for 220 volt on special order only.

Ⓒ GRINDER PEDESTALS

Mount your bench grinders on a really solid base. Consists of cast top with slot holes to mount grinder, 3-legged base with floor mounting holes and steel tube shaft. Pedestal is 32½" high and is finished in attractive gray color. Shaft can be cut to adjust height.

BGB-30, for ½, ¾, or 1 H.P. Grinders. Has coolant bucket cast into the top.

BGB-20, for ¼ and ⅓ H.P. Grinders. Does not have coolant bucket.

▲ Ⓓ WHEEL DRESSER

WD-12 Wheel Dresser, removes glaze and trues up wheel in a hurry. Made extra strong. New cutters are easily inserted when old ones wear out. Hood over cutter protects operator.

WD-12-1. Set of extra cutters for the WD-12 Wheel Dresser.

3-PRONG PLUG OUTLET ADAPTOR

EC-3 Adaptor (Not illustrated). One end plugs into standard 2-prong outlet — the other receives 3-prong plug now used on almost all electric hand tools. Adaptor ground wire is screwed onto outlet. Molded rubber construction.

SPECIFICATIONS

Standard Models	BG-500	BG-333	BG-250B
Motor Rating....	½ H.P.	⅓ H.P.	¼ H.P.
Amperes.....	5.6	4.6	3.4
Voltage.....	115	115	115
Cycle.....	50/60	*60	*60
No Load RPM —			
at 60 cycles...	3450	3450	3450
at 50 cycles...	2850	2850	2850
Spindle Length..	20"	16"	14¼"
Spindle Height...	5½"	5"	4⅛"
Total Height....	9⅜"	8½"	7½"
Wheel Diam.....	7"	6"	6"
Wheel Face.....	1"	¾"	¾"
Arbor Diameter..	⅝"	½"	½"
Ship'g Wgt. Lbs..	68	36	26

*Available in 50 cycle on special order.

EYE SHIELDS PROVIDE PROTECTION

Ⓔ **S-60 Floodlight Eye Shield.** Two 25 watt 115 volt light bulbs in each shield flood work with direct light and provide visibility for safe work. Sturdy aluminum die cast frame has window opening 4" x 6" with top sheet of safety glass and bottom sheet of standard glass, easily replaced, if it becomes pitted. Easily attached to grinder, easily adjusted up or down.
S-60-1. Extra 25 watt Light Bulb.

Ⓕ **S-69 Standard Eye Shields.** Thick safety glass gives clear vision, with adequate protection from flying particles. Frame swivels to best working position for the job . . . easily attached to grinder.

DRILL GRINDING ATTACHMENT

Ⓖ **DG-825 Drill Grinding Attachment.** It is fastened to the bench with only one bolt and can be left in position or quickly removed after use. Adjustable for 49°, 59°, 68° and 88° and countersink point angles, handles drills from ⅛" to ¾" diameters. The drill is clamped in a "V" type groove and the attachment is swiveled across the side of the grinding wheel for an accurately angled sharpening job.

Ⓗ QUALITY GRINDING WHEELS

Natural aluminum oxide abrasive, fully vitrified and balanced for fast cutting. Wheels furnished with bushings as listed below.

Stock No.	Bushing	Arbor	Grit	Dia.	Width
Ⓗ Straight Sided Wheels					
W- 62436	⅝" & ½"	¾"	36	6"	¾"
W- 62460	⅝" & ½"	¾"	60	6"	¾"
W- 63236	⅝" & ½"	¾"	36	6"	1"
W- 63260	⅝" & ½"	¾"	60	6"	1"
W- 73236	⅝"	¾"	36	7"	1"
W- 73260	⅝"	¾"	60	7"	1"
W- 83236	¾" & ⅝"	1"	36	8"	1"
W- 83260	¾" & ⅝"	1"	60	8"	1"
W-103224	1", ⅞" & ¾"	1¼"	24	10"	1"
W-103246	1", ⅞" & ¾"	1¼"	46	10"	1"
W-103260	1", ⅞" & ¾"	1¼"	60	10"	1"
Ⓙ Recessed Wheel (use with drill grinding attachments)					
W-63260R	⅝" & ½"	¾"	60	6"	1"

Ⓚ HIGH QUALITY WIRE WHEELS

Made of high quality, selected wire and metal, bound to help prevent wires from flying loose — crimped wire bristles prevent bending or breaking.

Standard Duty Wheels. Good quality, light weight brushes for intermittent, all-round use. Strong and durable.

No.	Diam.	Width	Arbor Hole
AC-414	4¼"	¾"	½"
AC-33	6"	¾"	½" to 2"

Heavy Duty Wheels. Built for heavy duty continuous service on all types of jobs.

No.	Diam.	Width	Arbor Hole
AC-26	6"	1⅛"	½" to 2"
AC-27	7"	1¼"	½" to 2"
AC-28	8"	1⅜"	½" to 2"

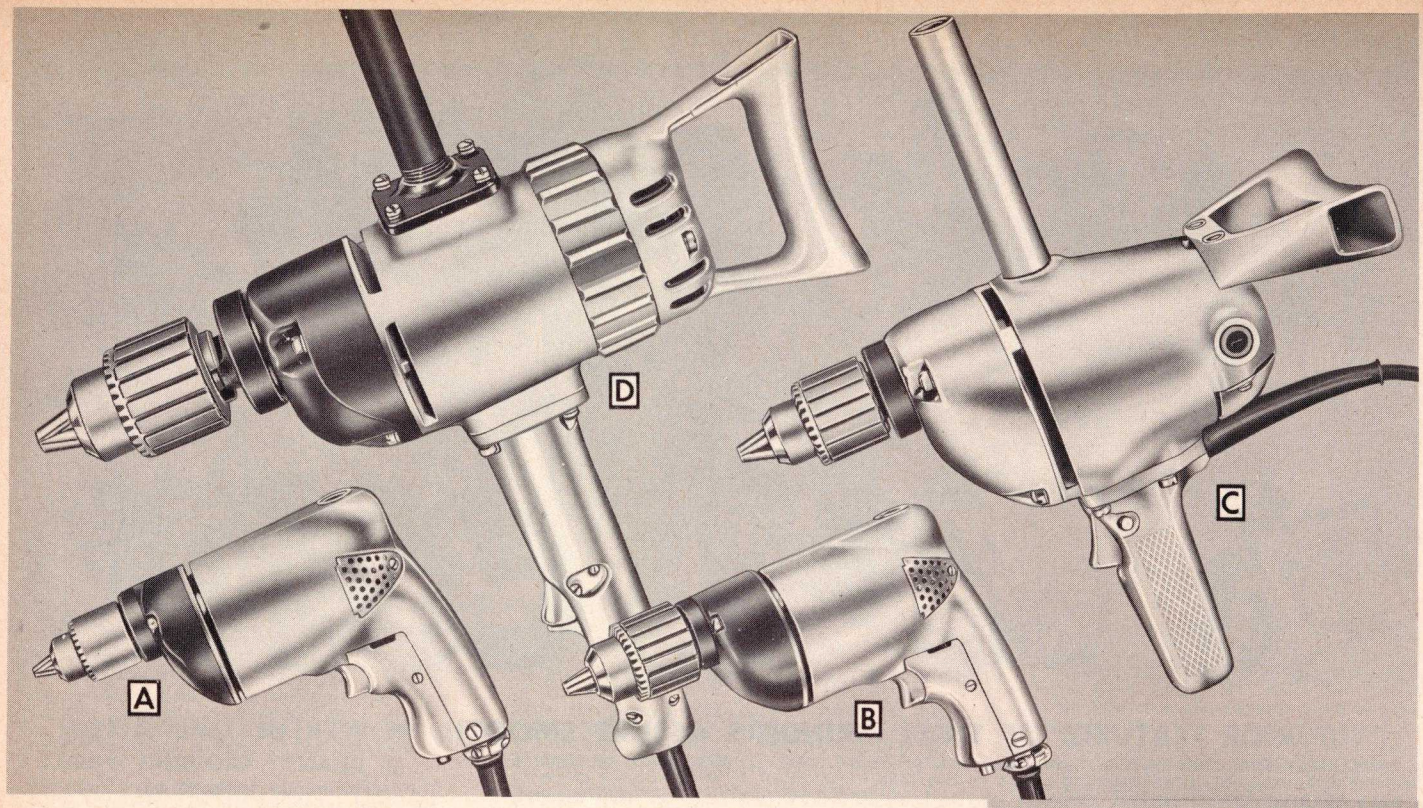
Specify Arbor Size Required

TWISTED TUFT WIRE WHEELS

Very high quality wheels with tufts 1¼" long. Tufts on AC-614 are twisted through entire length, tufts on the other two wheels are twisted about ⅔ of their length. Arbor holes are ⅝" but have a throw-away plastic bushing which allows use on ½" shafts.

No.	Diam.	Width	Wire	Arbor Hole
LAC-614	6"	7/16"	.016	½"-⅝"
LAC-618	6"	9/16"	.0118	½"-⅝"
MAC-632	6"	1"	.0118	½"-⅝"

▲ Federal Specs: GGG-D-631A applies to the WD-12 grinding wheel dresser listed above.



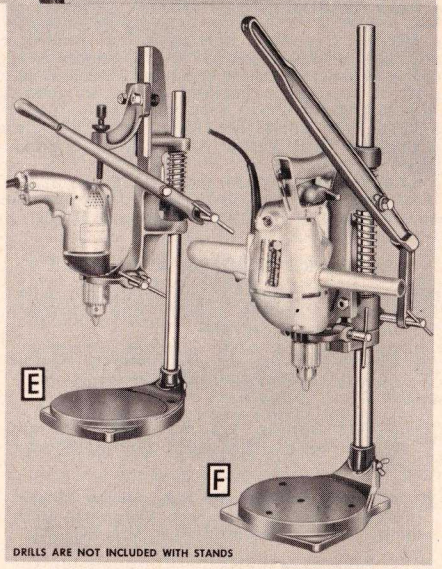
Blue-Point HEAVY DUTY ELECTRIC DRILLS

Ⓐ EDB-25 ¼" Heavy Duty Electric Drill. High quality pistol grip drill, ruggedly constructed throughout for continuous, heavy duty operation. Special alloy heat treated gears, extra long-life brushes and all ball and needle bearings make this drill more than equal to the toughest jobs.

Ⓑ EDB-38 ⅜" Heavy Duty Electric Drill. Pistol grip drill designed to give you the ultimate in performance. Rated for continuous heavy duty use. This drill offers heavy duty construction throughout, smooth running special heat treated gears, extra long-life brushes and precision geared chuck for extreme accuracy.

Ⓒ EDB-50 ½" Heavy Duty Electric Drill. This heavy-duty automotive drill offers close-coupled construction with minimum spindle offset plus precision chuck for operating ease and accuracy; ball bearing mounted armature and chuck spindle; special motor windings for high overload protection. Built for continuous, heavy duty service.

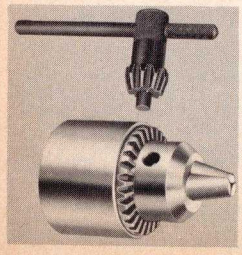
Ⓓ EDB-75 ¾" Super Duty Electric Drill. This drill has extra heavy duty construction that delivers top performance for all drilling operations, as well as for running speed reducers, hoists and light elevators. Heavy duty ball bearings at spindle and armature shaft for exceptionally smooth operation. This ¾" model has a reversing switch at no extra charge.



DRILLS ARE NOT INCLUDED WITH STANDS

SPECIFICATIONS

	¼" EDB-25	⅜" EDB-38	½" EDB-50	¾" EDB-75
Length	7¾"	8⅝"	13½"	17½"
No-load Speed	1700 R.P.M.	1000 R.P.M.	450 R.P.M.	375 R.P.M.
Rated load Speed	1300 R.P.M.	650 R.P.M.	300 R.P.M.	275 R.P.M.
Net Weight	3¼ lbs.	3¾ lbs.	9¾ lbs.	17¼ lbs.
Capacity (Steel)	¼"	⅜"	½"	13/16"
Capacity (Hardwood)	½"	¾"	1⅛"	2"
Bearings	5 ball, 1 needle	5 ball, 1 needle	3 ball, 5 needle	6 ball, 2 needle
Amperes	3.0 at 115V	3.0 at 115V	5.5 at 115V	10 at 115V
Voltage	115V. AC/DC			
Duty Rating	CONTINUOUS HEAVY DUTY			



Ⓐ CHUCKS AND CHUCK KEYS

Chucks are complete with key and rubber key holder.

Chuck No.	Capacity	Thread Size	Key & Holder No.	Chuck No.	Capacity	Thread Size	Key & Holder No.
SC-1A	0-¼"	⅜"-24	SCK-1	SC-5B	5/64"-½"	½"-20	SCK-5
SC-4A	0-¼"	⅜"-24	SCK-4	SC-5D	5/64"-½"	⅝"-16	SCK-5
SC-4B	0-¼"	½"-20	SCK-4	SC-6D	0-½"	⅝"-16	SCK-6
SC-2A	0-⅜"	⅜"-24	SCK-2	SC-6F	0-½"	¾"-16	SCK-6
SC-3B	0-⅜"	½"-20	SCK-5	SC-8F	⅛"-⅝"	¾"-16	SCK-6
SC-3D	0-⅜"	⅝"-16	SCK-5	SC-9F	3/16"-¾"	¾"-16	SCK-9

BLUE POINT DRILL STANDS

Base of stand may be screwed to the work bench and tool bracket can be adjusted to any height from base and swung around to any desired position. Mounting your drill in the stand enables you to do steadier, more accurate work. Feed handle leverage provides extra force for tough drilling jobs and feeds smoothly for the most delicate of drilling jobs.

Note: Drills are not included with stands.

Ⓔ **EDB-1 Drill Stand** for use with EDB-25 (¼" Drill) and the EDB-38 (⅜" Drill).

Ⓕ **EDB-2 Drill Stand** for use with the EDB-50 (½" Drill).

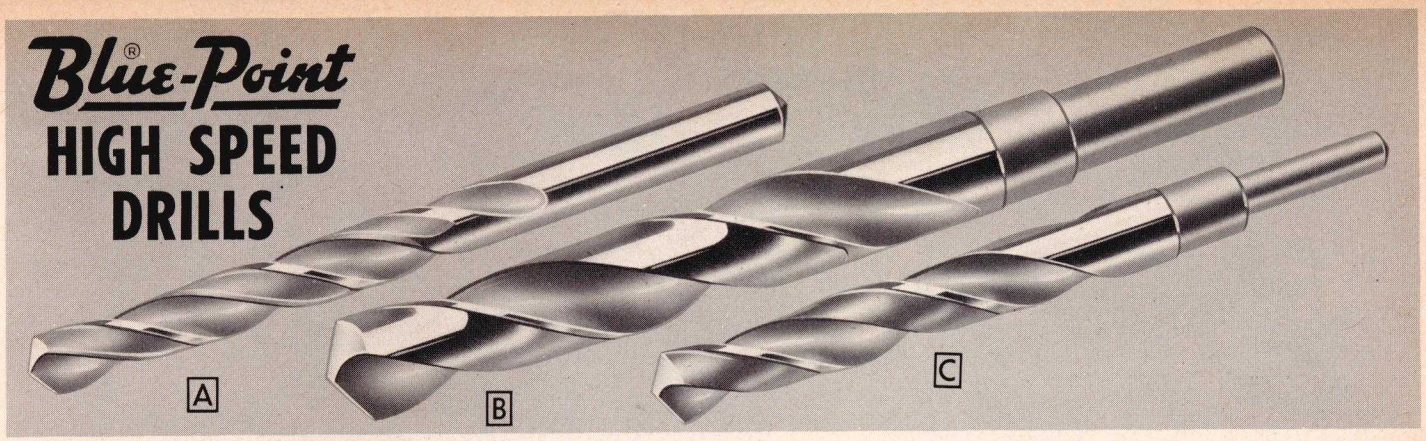
EDB-3 Drill Stand (not illustrated) for use with the EDB-75 (¾" Drill).



GA-153 Spot Weld Cutter. Cuts 5/16" diameter spot weld on all types of sheet metal. Used with electric drill. Reversible blade doubles tool life.

GA-153-1 Replacement Blade.

Blue-Point® HIGH SPEED DRILLS



These fine quality drills are general purpose drills made to do the best all around job in all classes of work. They are made of fine quality high speed steel and are expertly hardened and tempered by special processes to retain their sharpness for a long period of time. Each is precision ground to cut easily and accurately. For use in electric drills and power driven drill presses. To facilitate their safekeeping we offer sets in metal holders marked so you can quickly select the size drill you need.

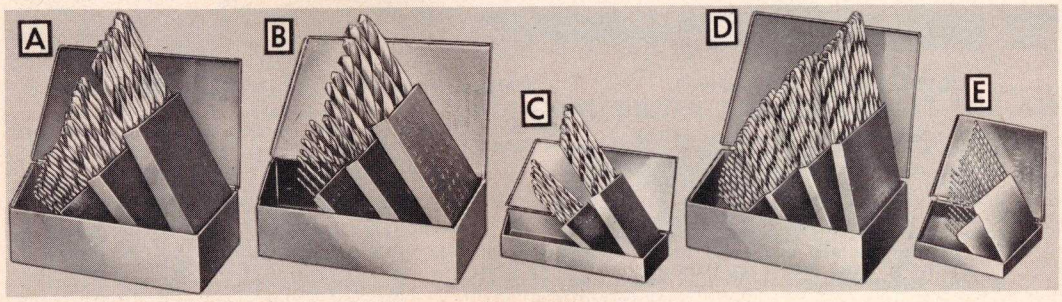
All figures in these tables are in inches

Ⓐ FRACTIONAL DRILLS

No. & Diam.	Deci. Equiv.	L'gth	No. & Diam.	Deci. Equiv.	L'gth
DBE-1/16	.0625	1 7/8	DBE-19/64	.2969	4 3/8
DBE-5/64	.0781	2	DBE-5/16	.3125	4 1/2
DBE-3/32	.0937	2 1/4	DBE-21/64	.3281	4 5/8
DBE-7/64	.1094	2 5/8	DBE-11/32	.3437	4 3/4
DBE-1/8	.1250	2 3/4	DBE-23/64	.3594	4 7/8
DBE-9/64	.1406	2 7/8	DBE-3/8	.3750	5
DBE-5/32	.1562	3 1/8	DBE-25/64	.3906	5 1/8
DBE-11/64	.1719	3 1/4	DBE-13/32	.4062	5 1/4
DBE-3/16	.1875	3 1/2	DBE-27/64	.4219	5 3/8
DBE-13/64	.2031	3 5/8	DBE-7/16	.4375	5 1/2
DBE-7/32	.2187	3 3/4	DBE-29/64	.4531	5 5/8
DBE-15/64	.2344	3 7/8	DBE-15/32	.4687	5 3/4
DBE-1/4	.2500	4	DBE-31/64	.4844	5 7/8
DBE-17/64	.2656	4 1/8	DBE-1/2	.5000	6
DBE-9/32	.2812	4 1/4			

Ⓐ WIRE GAUGE DRILLS

No.	Deci. Equiv.	L'gth	No.	Deci. Equiv.	L'gth	No.	Deci. Equiv.	L'gth
DBE- 1	.2280	3 7/8	DBE-28	.1405	2 7/8	DBE-55	.0520	1 7/8
DBE- 2	.2210	3 7/8	DBE-29	.1360	2 7/8	DBE-56	.0465	1 3/4
DBE- 3	.2130	3 3/4	DBE-30	.1285	2 3/4	DBE-57	.0430	1 3/4
DBE- 4	.2090	3 3/4	DBE-31	.1200	2 3/4	DBE-58	.0420	1 5/8
DBE- 5	.2055	3 3/4	DBE-32	.1160	2 3/4	DBE-59	.0410	1 5/8
DBE- 6	.2040	3 3/4	DBE-33	.1130	2 5/8	DBE-60	.0400	1 5/8
DBE- 7	.2010	3 5/8	DBE-34	.1110	2 5/8	DBE-61	.0390	1 5/8
DBE- 8	.1990	3 5/8	DBE-35	.1100	2 5/8	DBE-62	.0380	1 1/2
DBE- 9	.1960	3 5/8	DBE-36	.1065	2 1/2	DBE-63	.0370	1 1/2
DBE-10	.1935	3 5/8	DBE-37	.1040	2 1/2	DBE-64	.0360	1 1/2
DBE-11	.1910	3 1/2	DBE-38	.1015	2 1/2	DBE-65	.0350	1 1/2
DBE-12	.1890	3 1/2	DBE-39	.0995	2 3/8	DBE-66	.0330	1 3/8
DBE-13	.1850	3 1/2	DBE-40	.0980	2 3/8	DBE-67	.0320	1 3/8
DBE-14	.1820	3 3/8	DBE-41	.0960	2 3/8	DBE-68	.0310	1 3/8
DBE-15	.1800	3 3/8	DBE-42	.0935	2 1/4	DBE-69	.0292	1 3/8
DBE-16	.1770	3 3/8	DBE-43	.0890	2 1/4	DBE-70	.0280	1 1/4
DBE-17	.1730	3 3/8	DBE-44	.0860	2 1/8	DBE-71	.0260	1 1/4
DBE-18	.1695	3 1/4	DBE-45	.0820	2 1/8	DBE-72	.0250	1 1/8
DBE-19	.1660	3 1/4	DBE-46	.0810	2 1/8	DBE-73	.0240	1 1/8
DBE-20	.1610	3 1/4	DBE-47	.0785	2	DBE-74	.0225	1
DBE-21	.1590	3 1/4	DBE-48	.0760	2	DBE-75	.0210	1
DBE-22	.1570	3 1/8	DBE-49	.0730	2	DBE-76	.0200	7/8
DBE-23	.1540	3 1/8	DBE-50	.0700	2	DBE-77	.0180	7/8
DBE-24	.1520	3 1/8	DBE-51	.0670	2	DBE-78	.0160	7/8
DBE-25	.1495	3	DBE-52	.0635	1 7/8	DBE-79	.0145	3/4
DBE-26	.1470	3	DBE-53	.0595	1 7/8	DBE-80	.0135	3/4
DBE-27	.1440	3	DBE-54	.0550	1 7/8			



HIGH SPEED DRILL SETS

Ⓐ **DB-129 Fractional Drill Set.** 29 Drills 1/16" to 1/2" inclusive in B-129 Holder. Sturdy steel holder has hinged cover. Drill compartments have size of drill stamped into metal.

Ⓑ **DB-115 Fractional Drill Set.** 15 drills 1/16" to 1/2" by 32nds, in B-129 Holder. A good basic set—can be filled in later.

B-129 Drill Holder only.

Ⓔ **DB-120 Wire Gauge Drill Set.** Consists of 20 tiny wire gauge drills sizes DBE-61 to DBE-80 inclusive. Complete in the H-120 Drill Holder. Holder is only 2" high—gives protection for small drills.

H-120 Drill Holder only.

Ⓒ **DB-113 Fractional Drill Set.** This set contains 13 drills sizes 1/16" to 1/4" inclusive in B-113 Holder. The drill holder is of steel and is hinged as shown. Each compartment has drill sizes marked on it for easy selection.

B-113 Drill Holder only.

Ⓓ **DB-160 Wire Gauge Drill Set.** This set contains 60 Straight Shank Wire Gauge Drills DBE-1 to DBE-60 neatly arranged in B-160 Metal Holder. Each individual drill compartment is marked with drill size for easy selection. Holder has 4 separate hinged containers.

B-160 Drill Holder only.

COMBINATION SHANK DRILLS

Ⓑ 1/2" Diameter Shank

Highest quality high speed steel, specially hardened and tempered. Precision ground cutting edges. Drill holes up to 1" diameter with power tools equipped with 1/2" capacity chuck. 4 1/2" flute length provides long drill life. 6" overall length. Individually packed in protective envelopes.

Stock No.	Diam.	Dec. Equiv.
CSE-345	17/32"	.5312
CSE-365	9/16"	.5625
CSE-385	19/32"	.5937
CSE-405	5/8"	.6250
CSE-425	21/32"	.6562
CSE-445	11/16"	.6875
CSE-465	23/32"	.7187
CSE-485	3/4"	.7500
CSE-505	25/32"	.7812
CSE-525	13/16"	.8125
CSE-565	7/8"	.8750
CSE-605	15/16"	.9375
CSE-645	1"	1.0000



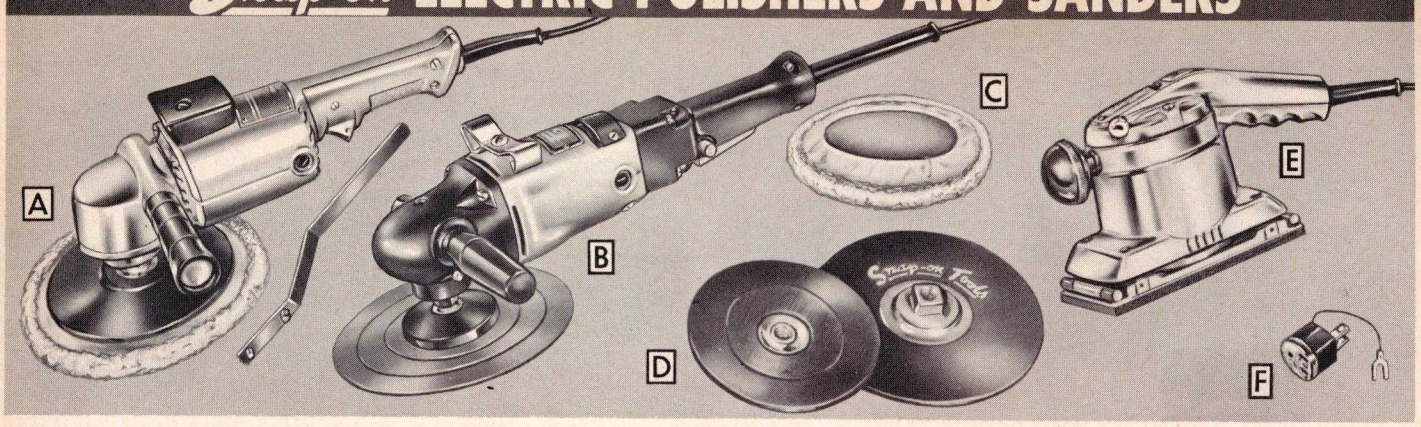
Ⓒ 1/4" Diameter Shank

Enables you to use your 1/4" electric drill to drill holes up to 1/2" in diameter. Each drill has a stepped down 1/4" diameter shank similar to figure Ⓒ above. Set of four drills packed in neat plastic bag to protect edges. Individual sizes in protective envelopes.

DB-425 Drill Set. Contains four drills: sizes 5/16", 3/8", 7/16" and 1/2" listed below, in plastic kit bag as shown.

Stock No.	Diam.	Dec. Equiv.
CSE-182	9/32"	.2812
CSE-202	5/16"	.3125
CSE-222	11/32"	.3437
CSE-242	3/8"	.3750
CSE-262	13/32"	.4062
CSE-282	7/16"	.4375
CSE-302	15/32"	.4687
CSE-322	1/2"	.5000

Snap-on® ELECTRIC POLISHERS AND SANDERS



Ⓐ ELECTRIC POLISHER

EP-75A Electric Polisher is an excellent tool for polishing all car finishes — from badly oxidized surfaces to the latest acrylics. Especially useful for waxing cars with either liquid or paste wax, removing "orange peel" spray marks, rubbing out repainted areas, cleaning bodies, bumpers, hub caps and all sections of the car. Can be used in severely contoured areas and in confined body and trim sections.

Patented Helicon gears contribute to utmost power delivery. Light weight reduces arm fatigue that usually slows up polishing on vertical surfaces. Side handle can be mounted on either side. Tool has 10 feet of cord with 3-prong plug. Wide plastic stand allows the tool to stand steady when changing disks or bonnets, etc.

Specifications: Capacity, 7″ diameter pad. Speed 2500 R.P.M. (no load). Motor, 115 V. 60 Cy. AC-DC. Amp. rating 6.5 at 115 V. Spindle 5/8″-11. Overall length 14½″. Net weight 7 lbs.

EP-75A-220. 220 volt model available on special order only.

Ⓑ HEAVY DUTY ELECTRIC DISC SANDER

ESB-70 Heavy Duty Electric Disc Sander. A powerful sander designed for heavy duty automotive use such as sanding and blending lead and plastic body fillers, removing paint, grinding and smoothing weld beads, sanding down "bump" marks, grinding off rivets and bolts, delicate feather edging, removing rust and scale and wire brushing. Accessories furnished include the ESP-705 Phenolic Disc Assembly which consists of separate 5″, 7″ and 9″ Phenolic Discs, three ½″ Rubber Backing Pad and Clamp Washer. This permits using a 9″ sanding disc and cutting it down to 7″ and 5″ as it wears. A convenient spindle lock simplifies locking or unlocking the backing pads. Powerful centrifugal fan maintains cool operating temperature.

Specifications: No load speed 4250 r.p.m., rated load speed 3100 r.p.m. Motor, 115 V. single phase 25 to 60 cycle AC-DC. Amp rating 8.5 at 115 V. Rated watts 530, maximum watts 830. Switch — instant release. Length without pads 17¾″. Spindle thread 5/8″-11.

ESB-72. Above Sander with 220 V. motor.

ESP-705. Phenolic Disc Assembly only.

Ⓒ WOOL BUFFING BONNETS

Lambs wool, 1″ pile, top grade skins, wide cloth side walls with drawstrings.

WB-71A 7″ Bonnet for 5½″ pad.
WB-81A 8″ Bonnet for 6½″ pad.

Ⓓ REINFORCED GRINDING DISKS

Reinforced Disks. Use on electric sanders for grinding welds, etc. They are lighter and less likely to break than cup-type wheels, however the use of a wheel guard is recommended. Made of several layers of material and grit bonded together. These disks are non-flexible.

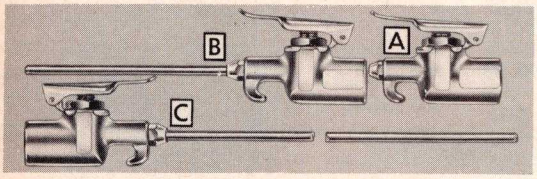
Stock No.	Description	Thick	Arbor
RDH-7247A	7″ Dia.	3/16″	5/8″-11
RDH-9247A	9″ Dia.	3/16″	5/8″-11

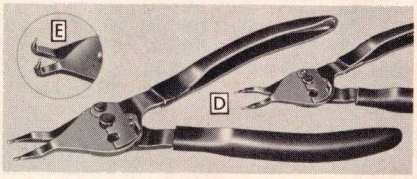
Ⓔ OSCILLATING SANDER

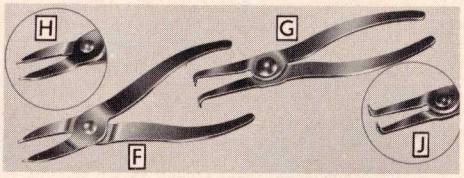
ESP-20 Oscillating Sander. Sands, featheredges and polishes. Shaded pole motor requires no commutator or brushes and works only on 115 volt 60 cycle A.C. It has prelubricated sealed ball bearings. Pad resists kerosene, water soluble oils, water, etc. Unit uses one-third of 9″ x 11″ abrasive sheet . . . sanding surface is 7¼″ x 3 5/8″ and oscillates 3450 orbits per minute. Has 10′ of 3-wire cord, 9 abrasive sheets and wool bonnet.

Ⓕ OUTLET ADAPTOR

EC-3, 3-Prong Plug Adaptor. Plugs into 2-prong outlet — has ground wire.







IMPROVED PRESSURE GUNS

Pressure guns with trigger controlled air from a whisper to full line pressure. Spring loaded control valve with no cutoff . . . no restrictions. These are high quality units — cadmium plated.

Ⓐ **JT-10A Standard Gun.** 2⅛″ long.

Ⓑ **JT-11A Long Gun.** Has a 4″ tube for carburetor, cylinder, brake work, etc. 6⅛″ overall length.

Ⓒ **JT-12A Extra Long Gun.** 9⅞″ tube. 12″ overall length.

JT-10A-3 Short Nozzle.
JT-11A-3 4″ Long Tube Nozzle.
JT-12A-3 9⅞″ Long Tube Nozzle.

CONVERTIBLE RETAINING RING PLIERS

Each plier is quickly converted to handle either internal or external retaining rings. Simply open the latch — locate the stud in No. 1 hole for external rings or in No. 2 hole for internal and re-lock the latch. Two sizes in straight tip and two sizes in 90° tip models are available. Small sizes are 5¾″ long, the large sizes are 8″ long. Black finish.

Ⓓ **Straight Tip Models**

PRS-12 . . . . . **Small Plier**
PRS-34 . . . . . **Large Plier**

Ⓔ **90° Tip Models**

PRS-129 . . . . . **Small Plier**
PRS-349 . . . . . **Large Plier**

SINGLE PURPOSE RETAINING RING PLIERS

For the positive and easy way to remove or install retaining rings. High grade steel, heat treated for strength and hardness. Standard black finish.

Ⓕ INTERNAL RING PLIERS

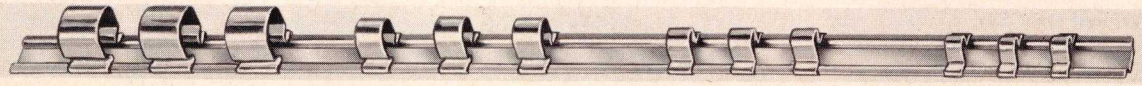
(For compressing ring for insertion into a bore)

Ⓗ Straight Tip	Ⓙ Offset Tip
PRS-21 Plier. 5 7/16″ long.	**PRS-219 Plier.** 5 3/16″ long.
PRS-23 Plier. 6 9/16″ long.	**PRS-239 Plier.** 6⅜″ long.
PRS-25 Plier. 8¾″ long.	**PRS-259 Plier.** 8½″ long.

Ⓖ EXTERNAL RING PLIERS

(For expanding ring to fit over a shaft)

Ⓗ Straight Tip	Ⓙ Offset Tip
PRS-22 Plier. 5⅝″ long.	**PRS-229 Plier.** 5 5/16″ long.
PRS-24 Plier. 6 13/16″ long.	**PRS-249 Plier.** 6½″ long.
PRS-26 Plier. 9¼″ long.	**PRS-269 Plier.** 8 11/16″ long.



SOCKET WRENCH HOLDERS AND MOUNTING BRACKET

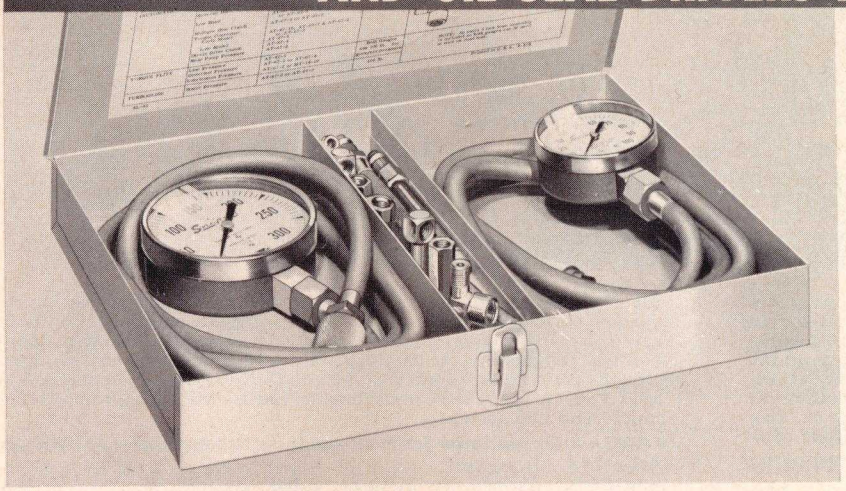
These units provide a convenient method of storing socket wrenches and accessories with square drive openings. The bracket can be attached to perforated or plain wall board or inside a wall cabinet or to drawer or tote tray bottoms, etc. The socket holders slide to the desired position and then grip the bracket when the socket is mounted on the holder. Illustration shows a bracket and three of each size of holder.

A-270 Mounting Bracket. Sold individually.

Holders are sold in packages of 100

A-271 Holders for ¼″ square drive units (100).
A-272 Holders for ⅜″ square drive units (100).
A-273 Holders for ½″ square drive units (100).
A-274 Holders for ¾″ square drive units (100).

AUTOMATIC TRANSMISSION OIL PRESSURE GAUGE SETS AND OIL SEAL DRIVERS AND PULLERS



AT-67N-B Complete Automatic Oil Pressure Gauge Set consisting of all parts listed below in KRA-141 Metal Box.

AT-67-11A Small Gauge Assembly only.

KRA-141 Metal Box with cover clasp fasteners.

Stock No.	Description
AT-67-1A	Oil Pressure Gauge, Hose and Quick Coupler Assembly (Zero to 300 p.s.i.)
AT-67-2A	Flexible Adaptor
AT-67-4A	Adaptor for Hydramatic
AT-67-5	Adaptor for Chevrolet
AT-67-6	Adaptor for Studebaker
AT-67-7	90 degree Street "L" (⅛" Pipe)
AT-67-8	45 degree Street "L" (⅛" Pipe)
AT-67-9	⅛" Female x ⅜" Male Pipe Bushing
AT-67-10	⅛" Female x ¼" Male Pipe Bushing
MT-14-10	"T" Fitting ⅛" Pipe
AT-67-11A	Small Gauge Assembly, includes: Gauge, Hose and Quick Coupler (Zero to 100 p.s.i.)
AT-67-12	Adaptor for 1960 Ford throttle pressure linkage

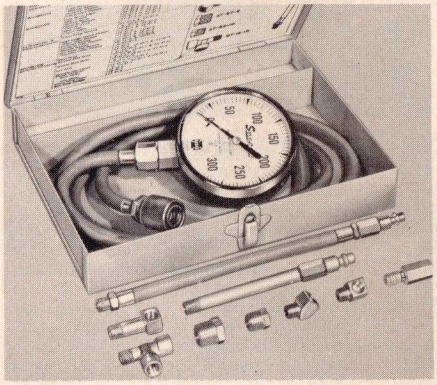
GAUGE SET FOR AUTOMATIC TRANSMISSION OIL, THROTTLE AND GOVERNOR PRESSURE

The large gauge checks oil pressure on virtually all automatic transmissions on the latest model cars, its 3½" dial is calibrated from 0 to 300 p.s.i. This is the gauge shown in both sets below.

The small gauge, calibrated from 0 to 100 p.s.i. permits throttle and governor pressure tests to be made as recommended on most automobiles. These pressures are too low for accurate readings to be taken on the larger gauge. This gauge can be used to measure oil pressure on cars equipped with warning lights instead of pressure gauge on the dashboard.

The scale on this gauge is calibrated in increments of two pounds, numerals indicating ten pounds divisions are also shown. A special red zone is provided between 13 and 15 p.s.i. which is the normal range for throttle pressure of Power Flight transmissions. The uncluttered, easy-to-read dial face is 2½" in diameter. A hook is included on the rear of both gauges to permit hanging in the most convenient location for reaching. Each gauge is equipped with a five foot hose to permit readings to be taken during road tests.

A metal box, KRA-141 shown left is included in the Set. Box measures 13¼" x 10⅛" x 1¾" and is finished in red enamel. Contains instructions inside cover showing the proper adaptor to use for each car.



GAUGE SET FOR AUTOMATIC TRANSMISSION OIL PRESSURE

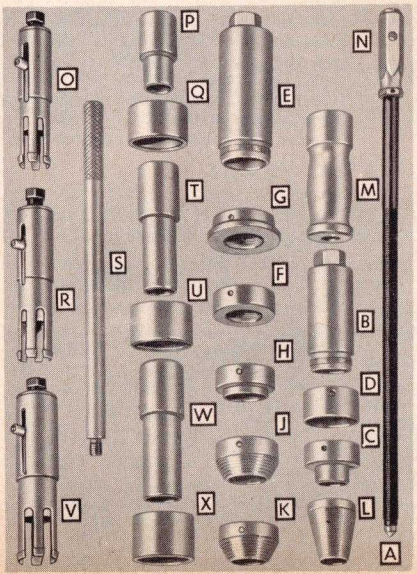
Checks the oil pressure at critical points within the transmission and reveals inside troubles which cannot be corrected by outside adjustments. The gauge is also necessary for setting the linkage on certain transmissions. You can spot oil leaks, pressure leaks, faulty Servo pistons, clogged screens, etc.

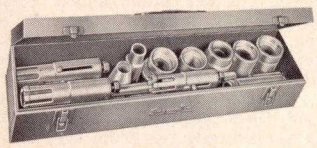
Large 3½" dial is calibrated from 0 to 300 PSI. Gauge has a hook on back of case. Has 5' hose with quick coupler for fast interchange of adaptors. Three of the adaptors furnished have ends to fit quick coupler. Balance have ends to fit connections of different transmissions. A chart in the box shows combinations.

AT-67A-B Oil Pressure Gauge Set in KRA-140 metal box including all parts listed below.

Stock No.	Description	Stock No.	Description
AT-67-1A	Gauge, Hose & Quick Coupler Assem.	AT-67-8	⅛" Pipe Elbow 45°
AT-67-2A	Hose Adaptor	AT-67-9	⅛" Female & ⅜" Male Pipe Bush.
AT-67-4A	Tube Adaptor	AT-67-10	⅛" Female x ¼" Male Pipe Bush.
AT-67-5	Chevy adapt.	MT-14-10	⅛" Pipe "T" Fitting
AT-67-6	Adapt. for Stude.	AT-67-12	Adaptor for 1960 Ford throttle pressure link
AT-67-7	⅛" Pipe Elbow 90°		

OIL SEAL DRIVER AND PULLER SET FOR AUTOMATIC TRANSMISSIONS





A-1423-B Transmission Seal Driver and Puller Set. Complete in KRA-109 Metal Box. The special tools and their method of use are engineered for maximum efficiency while preventing costly damage to seals, bushings, and other parts.

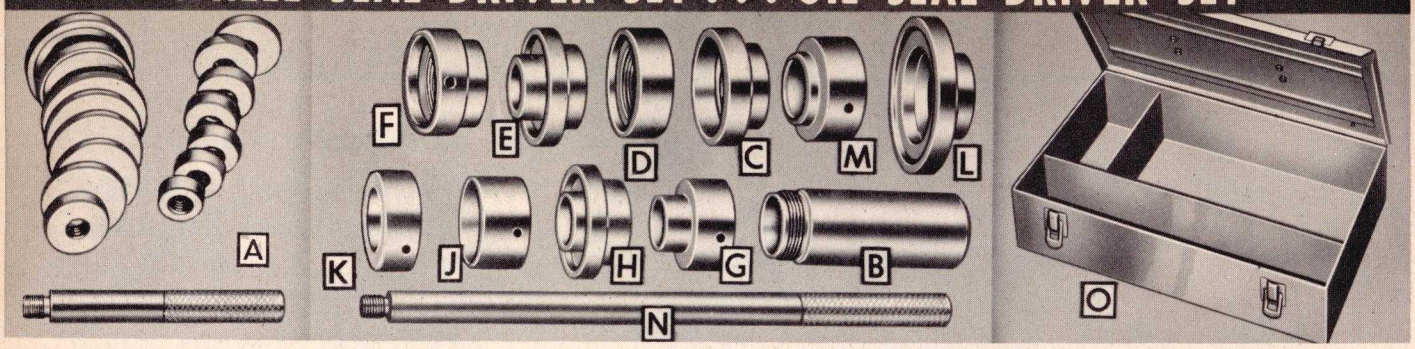
Both pressure screw and slide hammer power are provided for working speed and convenience. Seal puller heads have a threaded section which threads into the seal for fast removal. Both flat and raised seals can be installed with the driver heads. Three complete bushing and grease seal pullers and installers needed to service Comet, Falcon, Ford, Lincoln, Mercury, Thunderbird, and some Chevrolet automobiles are included.

The set services virtually all automatic transmissions including: Cruise-O-Matic, Dynaflow, Flash-O-Matic, Fordomatic, Hydra-Matic, Merc-O-Matic, Powerflite, Powerglide, Turbine 300 & 400, Turboglide, and Torqueflite. Many standard transmission seals can also be handled.

A-1423 Set. Above set without the box.

Stock No.	Description
A 66-15-3	Center Adaptor
B A-14-2A	Small Hex Head Handle
C A-14-9	Std. Trans. Driver Head
D A-14-12	Std. Trans. Driver Head
E A-14-18	Large Hex Head Handle
F A-14-19	Driver Head
G A-14-20	Driver Head
H A-14-21	Driver Head
J A-14S-1	Seal Puller Head
K A-14S-2	Seal Puller Head
L A-14S-3	Seal Puller Head
M CJ-97-3	Slide Hammer
N CJ-105-4	Slide Hammer Shaft
O S-6401A	Puller
P S-6402-1	Bushing Driver Head
Q S-6402-2A	Oil Seal Adaptor
R S-8672D	Puller
S S-8673-2	Driver Handle
T S-8673B-1	Bushing Driver Head
U S-8673B-3	Oil Seal Adaptor
V S-8687A	Puller
W S-8688A-1	Bushing Driver Head
X S-8688A-3	Oil Seal Adaptor
KRA-109	Metal Box

WHEEL SEAL DRIVER SET . . . OIL SEAL DRIVER SET



WHEEL SEAL DRIVER SET. Set consists of 7 pilot plates, 8 driver plates and solid handle. The various units fit both front and rear seals. In use, the proper size driver plate is placed in position on the handle, then the proper pilot plate is threaded on to the handle to hold the driver plate snugly in place. This provides a solid assembly which is easy to use with no danger of driver plate or pilot plate pulling off during operation. The handle is specially heat treated to assure long service. A chart shows proper combinations for use on various cars.

(A) **A-1417B Complete Wheel Driver Set** made up of the following parts: (Can be housed in KRA-123 Metal Box.)

Stock No.	Description	Stock No.	Description
A-14-1	7⅛" Solid Handle	A-14D-86	Driver Plate 2 11/16" Dia.
A-14-7A	Driver Plate 2⅝" Dia.	A-14P-40	Pilot Plate 1¼" Dia.
A-14-16A	Driver Plate 2 15/16" Dia.	A-14P-44	Pilot Plate 1⅜" Dia.
A-14-17	Driver Plate 2 5/16" Dia.	A-14P-46	Pilot Plate 1 7/16" Dia.
A-14-24	Driver Plate 2" Dia.	A-14P-48	Pilot Plate 1½" Dia.
A-14-25	Driver Plate 2¼" Dia.	A-14P-54	Pilot Plate 1 11/16" Dia.
A-14-26	Driver Plate 2½" Dia.	A-14P-58	Pilot Plate 1 13/16" Dia.
A-14D-78	Driver Plate 2 7/16" Dia.	A-14P-60	Pilot Plate 1⅞" Dia.

OIL SEAL DRIVER SET. Set consists of driver heads and plates for replacing pinion and transmission oil seals on all cars including both automatic and standard transmissions. They allow a quick installation without marring or damaging the seal. A chart furnished shows proper combination of parts to be used. The KRA-123 Metal Box is 16⅜" x 9½" x 3¾", has 3 compartments, red enamel finish, comfortable handle and clip fasteners.

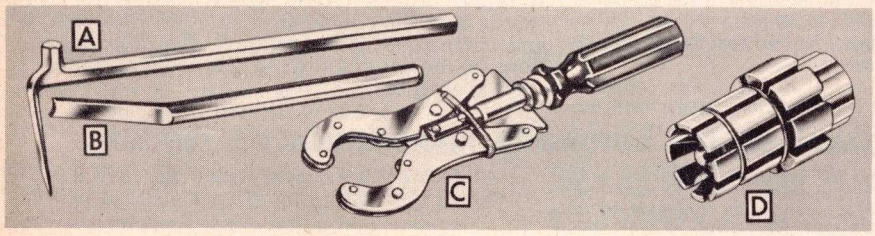
A-1412A-B Oil Seal Driver Set made up of parts listed below in KRA-123 Metal Box.

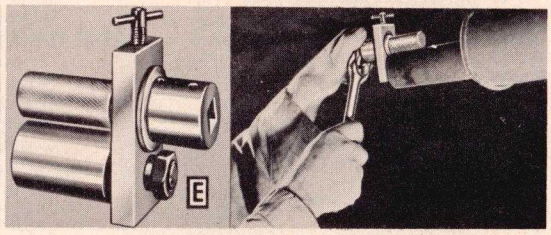
A-1412A Set. Above set without metal box.

Stock No.	Description	Stock No.	Description
(B) A-14-2	5" Hollow Handle	(H) A-14-10	Driver Head 3" Dia. x 1½"
(C) A-14-3	Driver Head 3⅛" Dia. x 1¼"	(J) A-14-12	Driver Head 2 7/16" Dia. x 1⅜"
(D) A-14-4	Driver Head 2⅞" Dia. x 1"	(K) A-14-23	Driver Head 2 7/16" Dia. x 1⅛"
(E) A-14-5A	Driver Head 3⅛" Dia. x 1⅝"	(L) A-14-14A	Driver Head 4⅛" Dia. x 1⅜"
(F) A-14-22	Driver Head 2⅝" Dia. x 1¼"	(M) A-14-15	Driver Head 2¾" Dia. x 1⅜"
(G) A-14-9	Driver Head 2 7/16" Dia. x 1¾"	(N) S-8673-2	Long Driver — 15¾"

A-1429A-B Combination Set made up of A-1412A Set listed above and the A-1417B Set listed opposite in KRA-123 Metal Box.

(O) **KRA-123 Metal Box,** 16⅜" x 9½" x 3¾", red enamel finish.





(A) **GA-84 Muffler-Tailpipe Tool.** Removes mufflers and tailpipes quickly, easily and safely. Simply insert "scooped" drop forged blade between muffler nipple and tailpipe, drive tool in by tapping on 9/16" anvil which breaks bond — tap tool out and tailpipe can be removed. ½" octagonal alloy steel, 11¾" long.

(B) **PC-32 Muffler Tool.** A husky, rugged tool designed to make fast work of cutting muffler sleeves, exhaust pipes and material of this type. Will take a lot of pounding and abuse and still cut these heavy materials. The head is set at an angle to afford knuckle clearance. The curved bit curls the cutting chip away from the operator to aid in safe operation. Overall length is 10", made of ½" octagon stock.

(C) **TC-50B Adjustable Tailpipe Cutter.** Fully adjustable to handle pipe from 1½" to 2½". Simple to use, does excellent cutting job and can be used in restricted places. Four cutting wheels are riveted to the two circular shaped arms and spaced to give best results. Arms are mounted on threaded shaft which has a screw driver type handle to give firm, comfortable grip. Arms or jaws are opened and closed by turning handle. Complete instructions are packed with each tool. Tool is 10½" long.

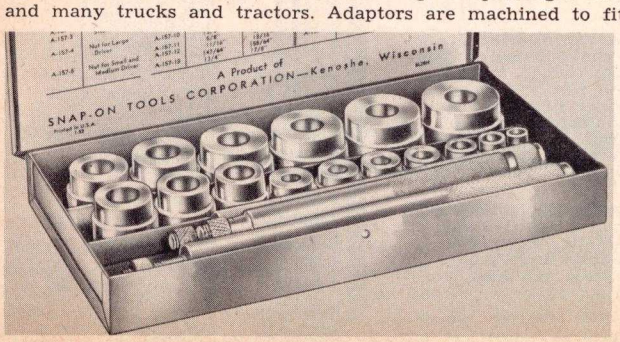
TC-50B-1 Replacement Cutter Wheel and Pin Set.

(D) **TC-55 Tailpipe Expander.** Removes the indentations made by U-bolts when clamped securely on the tailpipe or muffler. These indentations must be removed when installing a new tailpipe or muffler on the old unit to permit one tube to fit over the other. The sectional body of the tool expands when the 5/8" hex nut is turned clockwise, forcing the indentations back into the circumference of the pipe. Counter-clockwise turns reduces the tool to allow removal. Does job quickly, safely and easily. Tool is 5" long, will handle tailpipes from 1½" to 2½".

(E) **A-215 Muffler and Tail Pipe Tool.** This sturdy, easily operated tool irons out any ridges or defects in the ends of these pipes and contributes to a tighter and safer installation. The smooth roller is inserted into the end of the pipe and pressure is applied to the outside knurled roller by means of the adjustable position screw. A ½" square drive ratchet or other handle is used in the driving head of the knurled roller to turn it and thereby "walk" the tool around the end of the pipe. A few turns around the end of the pipe with intermediate adjustments smooths out the pipe so that there are no dents or other defects allowing a tight, safe installation of the new pipe. Here's a tool that saves a lot of time and makes a tough job easy.

BUSHING DRIVER SET

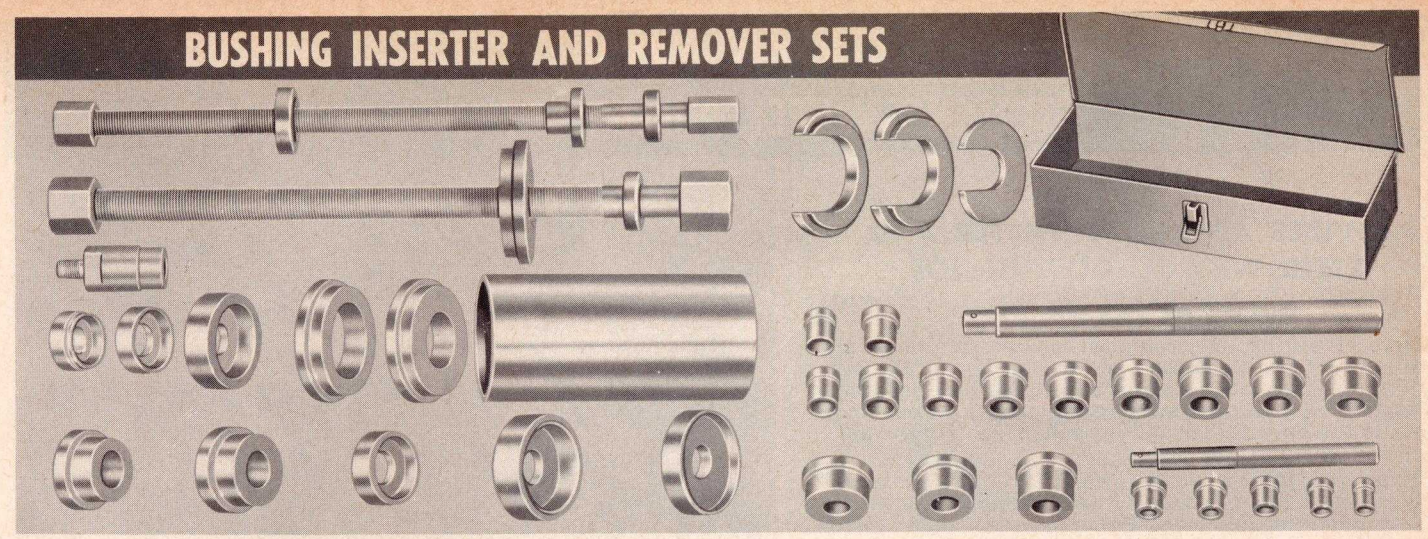
This set will remove and replace bushings on passenger cars and many trucks and tractors. Adaptors are machined to fit bushings accurately and are held on the threaded driver shafts by a knurled nut. Once secured, they cannot come off during the operation.



Knurled driver handles afford a firm grip and the anvil end is relieved to prevent excessive mushrooming. The small and medium size drivers fit all smaller bushings through the A-157-12, the large driver fits the remainder.

		Stock No.	For Bushing I.D.	O.D.	Stock No.	For Bushing I.D.	O.D.
A-157A	**Bushing Driver Set.** Contains all units listed below and 17 bushing adaptors	A-157-6	⅜" x	7/16"	A-157-14	13/16" x	15/16"
A-157-1	Large Driver	A-157-7	7/16" x	½"	A-157-15	55/64" x	63/64"
A-157-2	Medium Driver	A-157-8	½" x	⅝"		⅞" x	1"
A-157-3	Small Driver	A-157-9	9/16" x	1 1/16"	A-157-16	1 5/16" x	1 1/16"
A-157-4	Nut for A-157-2 and for A-157-3	A-157-10	39/64" x	43/64"	A-157-17	1" x	1 ⅛"
A-157-5	Nut for A-157-1		⅝" x	1 1/16"	A-157-18	1 1/16" x	1 3/16"
KRA-113	Metal Box	A-157-11	⅝" x	¾"	A-157-19	1 ⅛" x	1 ¼"
		A-157-12	1 1/16" x	1 3/16"	A-157-20	1 3/16" x	1 5/16"
		A-157-13	47/64" x	55/64"	A-157-21	1 ¼" x	1 ⅜"
			¾" x	⅞"	A-157-22	1 5/32" x	1 7/32"

BUSHING INSERTER AND REMOVER SETS



Provide an easier way to remove tight bushings and install new ones without damage. Standard and specialized bronze, steel, rubber or Enlox bushings can be serviced and the range of adaptor sizes covers practically all shackle and steering bushings through 1967 models. New bushings are inserted easily and quickly by tightening the screw...this forces the bushing into place without hammering or distorting it. The sleeves permit you to force out old bushings and are indispensable on jobs where there is not sufficient room to drive them out.

▲ INSERTER AND REMOVER SET

A-57Q-B Bushing Remover and Inserter Set. Complete with all parts listed at right and shown above. The five smallest adaptors are used only with the small driver. The set comes with the special KRA-104 metal box as shown above. This metal box has baked-on red enamel finish.

A-57Q Above set. Tools only.

Stock No.	Description
A-57-CA	Screw, ½"–20 thread
A-57-3	Washer, ½" I.D., 1¼" O.D.
A-57-14A	Large Bushing Driver
A-57-15	Small Bushing Driver
A-57-35	Screw, ⅝"–18 thread
A-57-36	Sleeve, 4 1⁵⁄₁₆" long, 2 1⁄₁₆" I.D.
A-57-37	Sleeve Plate, ½" I.D.
A-57-38	Sleeve Plate, 1½" I.D.
A-57-39	Sleeve Plate, 4 1⁄₆₄" I.D.
A-57-41	Sleeve Plate, 1⅛" I.D.
ESD-1428	Bearing, ½" I.D., 1" O.D.
ME-4A-2	Nut, ½"–20 thread
ME-4A-4	Nut, ⅝"–18 thread
ME-11A-1	Bearing, ⅝" I.D., 1⅛" O.D.

MISCELLANEOUS ADAPTORS

Stock No.	For Bushing I.D.	For Bushing O.D.	Stock No.	For Bushing I.D.	For Bushing O.D.
A-57-6	⅜"	7⁄16"	A-57-16	13⁄32"	7⁄16"
A-57-7	7⁄16"	½"	A-57-17	7⁄16"	½"
A-57-8	½"	⅝"	A-57-18	½"	9⁄16"
A-57-10	51⁄64" / 13⁄16"	59⁄64" / 15⁄16"	A-57-20	1 1⁄16"	1 3⁄16"
A-57-13	1"	1⅛"	A-57-25	9⁄16"	11⁄16"
			A-57-26	½"	⅝"

CHEVROLET ADAPTORS for—

A-57-5	6-Cyl. King Bolt Bushing (also fits 1960 Mercury stabilizer bushing)
A-57-11	6-Cyl. Knee Action King Bolt Bushing
A-57-12A	1½ Ton Truck Front Spindle Bushing
A-57-19	6-Cyl. Water Pump Bushing
A-57-22	Truck Spindle Bushing
A-57-27	Spring Shackle Puller
A-57-44	Front Rubber Bushing Replacer
A-57-45	Front Rubber Bushing Remover
A-57-46	Rear Spring Bushing
A-57-49	L. Control Arm Inner Bushing

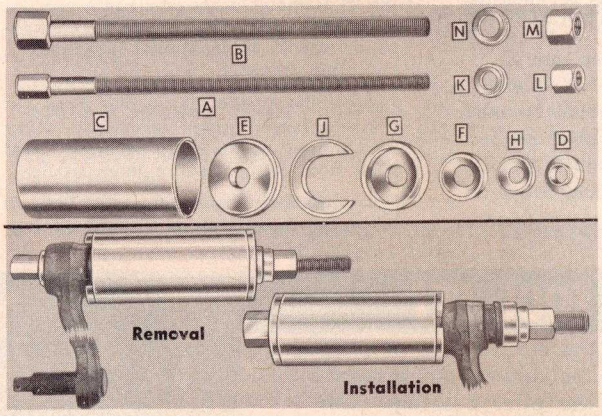
FORD ADAPTORS for—

A-57-23A	Spindle Bushing
A-57-24	Stabilizer Rubber Bushing
A-57-29	F-7 and F-8 Truck King Pin Bushing
A-57-40	Truck Rear Bushing
A-57-42	Front Rubber Bushing Remover
A-57-43	Front Rubber Bushing Replacer
A-57-47	Rear Spring Bushing
A-57-48	Truck Rear Bushing

FORD AND CHEV. ADAPTORS for—

A-57-50	Idler Arm Bushing Remover (1⅜")
A-57-51	Idler Arm Bushing Remover (1 7⁄32")

IDLER ARM BUSHING SERVICE SET



A-5713 Idler Arm Bushing Service Set. Gives you an excellent and economical set for this front end work. Its pressure screw power can be augmented with an impact wrench to make light work of tough, idler arm bushings on Chevrolet, Ford, and several other makes of automobiles. The parts can also be used for various other bushing applications.

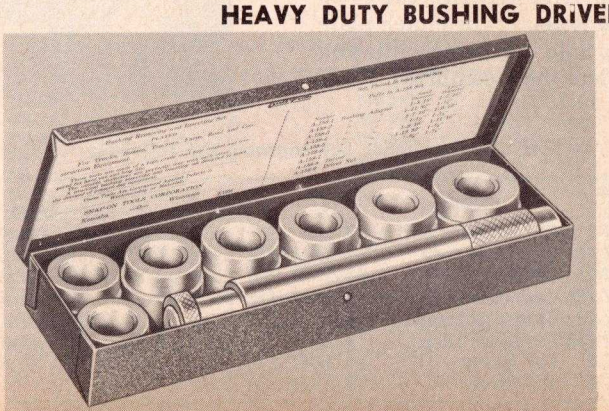
With this set you can do a real job on the frequently difficult-to-remove idler arm bushings. There is no need to remove the idler arm from the car, nor is there any need to spend considerable time and energy cutting or burning the "frozen" bushing from its housing. Handle these jobs easily while saving time and increasing your profits. You can install all types of idler arm bushings, including the rubber, ball bearing, and nylon units, with this new set.

Provides a superior method for removing and replacing idler arm bushings to really speed up front end repair work.

Contents of Set

Key	Stock No.	Description
A	A-57CA	Screw, ½"–20 thread
B	A-57-35	Screw, ⅝"–18 thread
C	A-57-36	Sleeve, 2 1⁄16" I.D., 4 1⁵⁄₁₆"
D	A-57-37	Sleeve Plate, ½" I.D.
E	A-57-39	Sleeve Plate, 4 1⁄₆₄" I.D.
F	A-57-42	Front Bushing Remover
G	A-57-43	Front Bushing Replacer
H	A-57-46	Rear Spring Adaptor
J	A-57-50	Idler Arm Bushing Remover
K	ESD-1428	Bearing, ½" I.D., 1" O.D.
L	ME-4A-2	Nut, ½"–20 thread
M	ME-4A-4	Nut, ⅝"–18 thread
N	ME-11A-1	Bearing, ⅝" I.D., 1⅛" O.D.

HEAVY DUTY BUSHING DRIVER SET FOR TRUCKS, TRACTORS AND BUSES



A-158 Heavy Duty Bushing Driver Set, in metal box. This set is designed for removing and replacing bushings on trucks, tractors and buses. It covers a range of sizes from 1 5⁄16" through 1¾" inside diameter bushings. The seven adaptors, the driver and driver nut are carefully heat treated and tempered to assure long life. Adaptors are secured to threaded driver shaft by a knurled nut. Knurled handle affords firm grip. Listed are a few of the truck and tractor bushings this set will handle.

Autocar	1 11⁄32" Steering Knuckle
Caterpillar	1 9⁄16" & 1¾" Piston Pins
GMC Truck	1 11⁄32" Piston Pin
Hercules	1 11⁄32" & 1½" Piston Pins
International	1 11⁄32" Piston Pin
International	1 19⁄32" Steering Knuckle
John Deere Tractor & Combine	1 19⁄32" & 1¾" Piston Pins
Mack Truck	1 11⁄32" & 1 7⁄16" Piston Pins
Mack Truck	1 9⁄16" Steering Knuckle
McCormick-Deering	1 5⁄16" Piston Pin
White Truck	1 5⁄16" Steering Knuckle

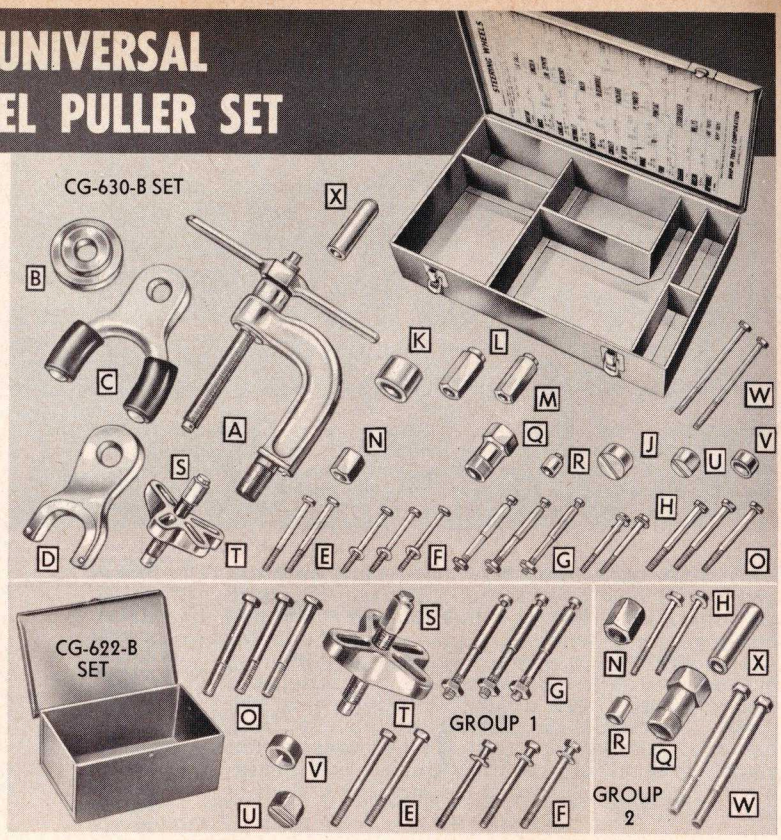
BUSHING ADAPTORS

Stock No.	Small Diameter	Large Diameter
A-158-1	1 5⁄16"	1 7⁄16"
A-158-2	1 11⁄32"	1½"
A-158-3	1 7⁄16"	1 9⁄16"
A-158-4	1½"	1⅝"
A-158-5	1 9⁄16"	1 11⁄16"
A-158-6	1 19⁄32"	1¾"
A-158-7	1¾"	1 7⁄8"

A-158-8 Driver **A-158-9** Driver Nut

▲ Federal Specs: GGG-00-781B applies to the A-57Q-B Set and contents.

Snap-on UNIVERSAL STEERING WHEEL PULLER SET



PROVIDES AN EASIER, FASTER AND BETTER WAY TO DO THIS JOB

Handles all cars and trucks

Here are all the units you need for fast, safe removal of steering wheels on cars and trucks. Practically all of the newer models require the Yoke Puller and its related parts to pull tapped wheel hubs, etc., while the Fork Puller and interchangeable parts are needed for older models.

These tools place smooth, powerful pressure at exactly the right point to assure a fast, safe job. The pressure screw in the Frame Puller does not turn . . . it is milled its entire length and works through a threaded bushing and key—thereby eliminating any possibility of damage to the shaft. Pressure screw and forks are in positive alignment, and the forged "I" beam standard does not permit give or spring. The narrow fork has brass insert, the wide fork has rubber sleeves to protect the steering column. Adaptors protect shaft and wiring from injury.

CG-630B Universal Steering Wheel Puller Set. Consists of all the parts shown above and listed below, in KRA-106 special metal case.

CG-630 Set. The above set without the case.

- (A) **CG-60H** .... Frame Assembly
- (B) **CG-60-2** ..... Frame Nut
- (C) **CG-60-3** ..... Wide Fork
- (D) **CG-60-4** ..... Narrow Fork
- (E) **CG-60-7-4** 5/16" N.F. Studs (2)
- (F) **CG-60-7-6** 5/16" N.C. Studs (3) Fit Nash, Rambler, GMC.
- (G) **CG-60-7-7** .... Buick Studs (3)
- (H) **CG-60-7-9** 1/4" N.F. Studs (2) Fit Studebaker.
- (J) **CG-60-11A** . Slotted Adaptor
- (K) **CG-60-12-1** ..... Large Truck Adaptor
- (L) **CG-60K1** Ford Shock Puller
- (M) **CG-60K2** Chevy Shock Puller
- (N) **CG-60M1** 1952–64 Buick, Cadillac Adaptor
- (O) **CG-60M2** 3/8" N.C. Studs (3) Fit Cadillac, Olds.
- (Q) **CG-60N2** 1953–64 Nash, Rambler Adaptor
- (R) **CG-60N3** 1953–64 Nash, Rambler Screw Adaptor
- (S) **CG-60R1** Yoke Pressure Screw
- (T) **CG-60R2** .....4-Way Yoke
- (U) **CG-60R3** Yoke Screw Adaptor
- (V) **CG-60R4** ..... Buick Adaptor
- (W) **CG-60C-2** 3/8" N.C. Studs (2) Chrysler, Imperial, DeSoto.
- (X) **CG-60C-1** Chrysler, Imperial, DeSoto Adaptor

KRA-106 ... Special Metal Case

BASIC YOKE TYPE PULLER SET

CG-60G-B Yoke Set. (Group 1 parts only.) Services most tapped hubs. Consists of the parts listed below. In KRA-111 special case.

CG-60G Set. Above set without the case.

- (S) **CG-60R1** ..... Yoke Pressure Screw
- (T) **CG-60R2** ..... Four Arm Yoke
- (U) **CG-60R3** ..... Pressure Screw Adaptor
- (V) **CG-60R4** ..... Buick Adaptor
- (E) **CG-60-7-4** ..... 5/16" N.F. Studs (2)
- (F) **CG-60-7-6** ... 5/16" N.C. Studs and Nuts (3)
- (G) **CG-60-7-7** ..... Buick Studs (3)
- (O) **CG-60M2** ..... 3/8" N.C. Studs (3)

COMPLETE YOKE TYPE PULLER SET

CG-622-B Complete Yoke Set. (Groups 1 and 2.) All the parts in the Basic Yoke Set plus the additional parts listed below. In KRA-111 metal case.

CG-622 Set. Above set without the case.

- (H) **CG-60-7-9** ..... 1/4" N.F. Studs (2)
- (N) **CG-60M1** ..... 1952–64 Cadillac Adaptor
- (Q) **CG-60N2** . 1953–64 Nash, Rambler Adaptor
- (R) **CG-60N3** . 1953–64 Nash, Rambler Adaptor
- (W) **CG-60C-2** ..... 3/8" N.C. Long Studs (2)
- (X) **CG-60C-1** ..... Adaptor

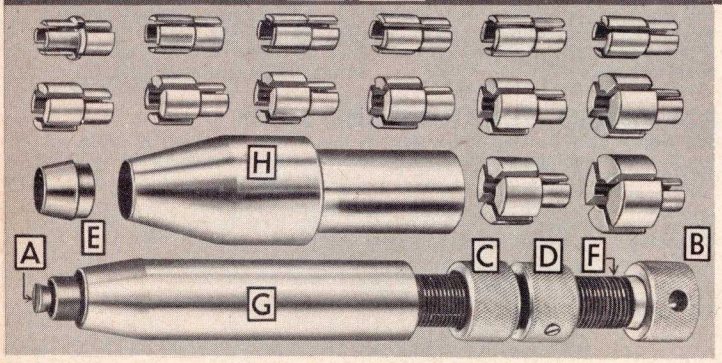
OPTIONAL LARGE FORK

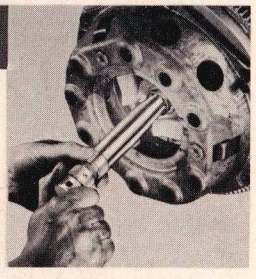
CG-60-4B Steering Wheel Puller Fork. Fits the 2" diameter posts now being used on many Chevrolet, GMC, White, Reo, Studebaker, Mack, International, Diamond T, and other trucks.

It is similar to the (D) CG-60-4 Fork but it has a larger milled opening to allow it to be used on the larger steering wheel posts now being used in these trucks.

This large fork is not included in the sets listed, but is available as an optional unit.

Snap-on CLUTCH ALIGNING TOOL SET





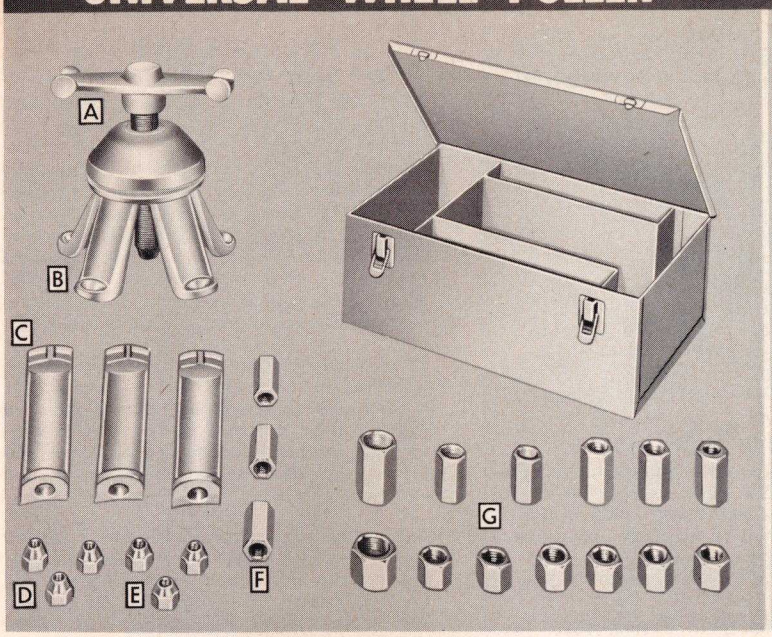
Place the correct size of pilot on the tool and expand it tightly in the pilot bearing—then adjust the sliding tapered sleeve to center the clutch plate and to hold it in place while you complete the assembly.

A-37H Clutch Aligner Set. For use on cars and trucks with standard transmissions, including compact foreign cars. This tool locks in the clutch pilot bearing to leave the operator's hands free to replace and tighten the compressor plate. The set provides a quick, accurate clutch aligning service for the complete range of automotve single disc clutches.

A-37H Clutch Aligner Set contains the following:

Stock No.	Description	Stock No.	Description	Stock No.	Description
(A) A-37-3	Rod and Taper Bushing	A-37-9	.625" Collet	A-37-25	.562" Collet
(B) A-37-4A	Centralizer Knob	A-37-10	.750" Collet	A-37-27	.812" Collet
(C) A-37-5A	Centralizer Nut	A-37-11	.590" Collet	A-37-28	.656" Collet
(D) A-37-15A	Centralizer Collar	A-37-12	.668" Collet	A-37-29	1.00" Collet
(E) A-37-22	Centralizer Locater	A-37-13	.786" Collet	A-37-30	.500" Collet
(F) A-37-23B	Centralizer Tube	A-37-14	.984" Collet	A-37-31	.578" Collet
(G) A-37-2	1¼" Sleeve	A-37-17	1.181" Collet	A-37-33	.875" Collet
(H) A-37-6	1⅝" Sleeve	A-37-18	.718" Collet		

UNIVERSAL WHEEL PULLER



It pulls any demountable wheel hub for any passenger car and most light weight trucks by inserting the proper type jaws and attaching the tool to the stud bolts. The patented pressure screw drive is known to be the fastest, easiest, safest, and most efficient method of pulling any hub . . . The interchangeable jaws pivot and swing to any desired bolt circle. Pulling is always direct from the housing flange, and the jaws automatically center themselves, providing a positive direct leverage regardless of the working angle of the jaws. BLUE-POINT Thrust Nuts should be used on small and medium sized axles to protect the threads while pulling the hub. It takes time to clean up or re-cut threads after they have been damaged. These nuts, machined from high quality steel and especially heat treated, will more than repay their small cost. This puller works quickly, efficiently and without danger to any part of the car or to the operator.

UNIVERSAL WHEEL PULLER SETS

▲ **S-4567B-B Basic Wheel Puller Set.** For passenger cars and light trucks. Consists of the 4567-P Body and Drive Assembly and the 4567-GA Set of Four Short Jaws. In KRA-107 Metal Box.

▲ **S-4567B Set.** Above set without the Metal Box.

S-4567A-B Standard Wheel Puller Set. Consists of the 4567-P Body and Drive Assembly, 4567-GA Set of Four Short Jaws and TN-1300 Set of thirteen Thrust Nuts, complete in KRA-107 Metal Box.

S-4567A Set. Above set without the box.

S-4567C-B Complete Wheel Puller Set. Consists of the following parts, complete in KRA-107 Metal Box.

Ⓐ **4567-P** Body and hammerhead screw assembly without jaws.
Ⓑ **4567-GA** Set of 4 short jaws
Ⓒ **4567-H** Set of 3 long jaws
Ⓓ **4567-C** 9/16" tapered stud nuts (3)
Ⓔ **4567-CC** 7/16" tapered stud nuts (3)
Ⓕ **4567-1** right and left hand thread 3/4" stud nuts (3)
Ⓖ **TN-1300** Set Thrust Nuts

S-4567C Set. Above set without the box.

TN-1300 THRUST NUT SET

TN-201	5/8" x 18, 3/4" long	**TN-282**	7/8" x 18, 3/4" long
TN-202	5/8" x 18, 2" long	**TN-283**	7/8" x 14, 2" long
TN-241	3/4" x 16, 3/4" long	**TN-321**	1" x 14, 3/4" long
TN-242	3/4" x 20, 2" long	**TN-322**	1" x 14, 2" long
TN-243	3/4" x 16, 2" long	**TN-401**	1 1/4" x 12, 7/8" long
TN-261	13/16" x 16, 3/4" long	**TN-402**	1 1/4" x 12, 2 1/2" long
TN-281	7/8" x 14, 3/4" long		

▲ **S-4567D-B Wheel Puller Set.** Same set as the S-4567C-B Set but without the TN-1300 Thrust Nut Set. In KRA-107 Box.

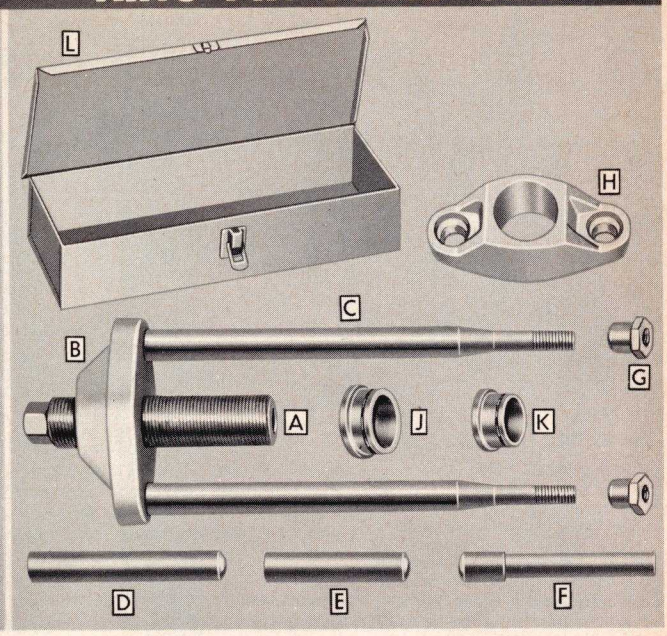
S-4567D Set. Above set without the box.

KRA-107 Special Metal Box. 15 3/4" x 9 7/8" x 5 5/8" high.

4567A Hammer-Head Pressure Screw only.

TN-405 Thrust Nut. Fits Volkswagen axles. Not included in any of above sets.

KING PIN PRESS SETS

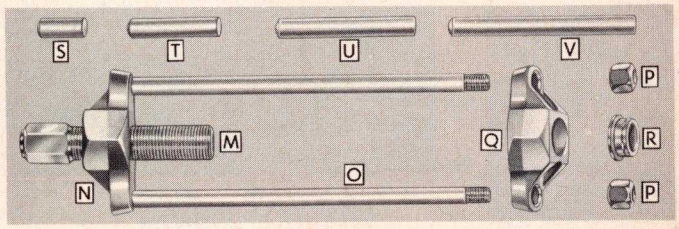


The SNAP-ON King Pin Press provides an easy way to remove the most stubborn king pins and eliminates time taking and dangerous methods such as heating and sledge hammer tactics. A steady powerful pressure pushes the pin out safely, easily and quickly. Every part is designed and constructed to provide plenty of reserve strength to remove the tightest pins. To remove King Pins, the front wheel is removed and the two yoke posts slipped over the axle and steering knuckle plate. The heads swivel enough to adapt themselves to practically any car. Several pilots and adaptor bushings adapt the tool to the different sizes of King Pins used.

CAR AND LIGHT TRUCK SETS

CG-212A-B General Purpose King Pin Set. Services most cars and light trucks including Ford 1 ton and 1½ ton trucks with solid King Pins. Complete in KRA-104 box.

CG-212A Set. Above set without the box.



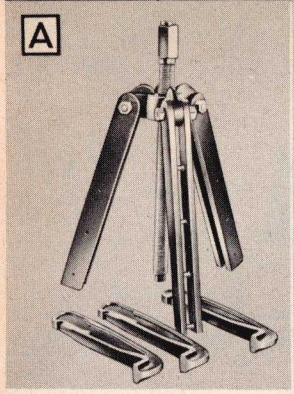
HEAVY TRUCK KING PIN PRESS SET

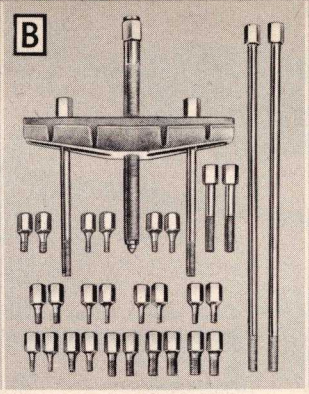
CG-230 Truck King Pin Press Set. Contains the units listed below. Parts are bigger and stronger than the parts in the car sets. The pressure screw hex head fits a 1½" wrench. This set will not fit into the box shown above.

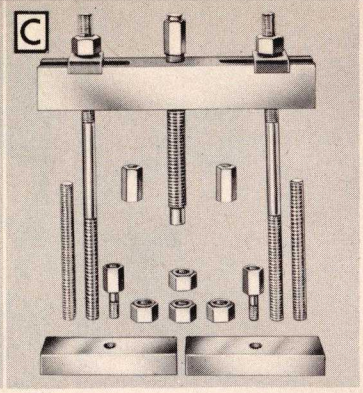
List of King Pin Press Parts

FOR CARS — LIGHT TRUCKS			FOR TRUCKS	
Stock No.	Set CG-212A-B	Description of Part	Stock No.	Set CG-230
(A) **CG-21A**	1	Pressure Screw	(M) **CG-230-1**	1
(B) **CG-21B**	1	Screw Yoke	(N) **CG-230-2**	1
(C) **CG-21D**	2	Screw Yoke Post	(O) **CG-230-4**	2
(D) **CG-21E**	1	3/4" Long Pilot	.....	.....
(E) **CG-21F**	1	3/4" Short Pilot	.....	.....
(F) **CG-21G**	1	5/8" Pilot	.....	.....
(G) **CG-21J**	2	Post Nut	(P) **CG-230-5**	2
(H) **CG-21P5**	1	General Use Head	(Q) **CG-230-3**	1
(J) **CG-21P3**	1	1 1/4" Bushing	(R) **CG-230-6**	1
(K) **CG-21P2**	1	1" Bushing	.....	.....
(L) **KRA-104**	1	Metal Case	.....	.....
.....	.....	2" Pilot	(S) **CG-230-7**	1
.....	.....	4" Pilot	(T) **CG-230-8**	1
.....	.....	6" Pilot	(U) **CG-230-9**	1
.....	.....	8" Pilot	(V) **CG-230-10**	1

Snap-on HEAVY DUTY PULLERS—MANUAL TYPE







Ⓐ EXTRA HEAVY DUTY PULLER

Provides You With 25 Tons of Pulling Power

CG-325 Puller. Handles gears and pulleys up to 20″ diameter and has a reach of 20″. Is adaptable as a three-jaw or two-jaw puller. Yokes and jaws are heat treated malleable iron, comparable in strength to heat treated alloy forgings. The 1⅜″ diameter screw has a hexagon head which fits any 1½″ wrench. Jaws hook into any of three positions on the arms, once set properly on the job they grip tighter with each turn of the pressure screw. This rugged tool develops a gradual build-up of up to 25 tons of pulling power to pull tough jobs without sledge blows and shocks which might damage machinery.

Ⓑ UNIVERSAL SLOTTED YOKE PULLER

Useful in any shop or industrial plant for pulling tapped bearings, pulleys, gears, etc. The pulling studs have ⅝″-18 internal threads in the hex heads and ⅝″-18 external threads on the bolt end. To provide extra long reach, two or more studs can be screwed together to provide a strong, rigid pulling unit . . . studs can also be screwed into the CJ-951 and CJ-952 Bearing Separators for added usefulness.

Studs are furnished in 3 lengths and a ⅞″ wrench fits the hex heads.

Yoke is 12″ long and is heavily constructed to provide strength to the arms which are slotted close to the screw hole to give a wide adjustment range.

Threaded adaptors screw onto the pulling studs and fit a wide range of tapped holes. The internally threaded hex heads fit a ⅞″ wrench.

Pressure Screw is 13⅜″ long . . . it has a 1⅛″ hex head with removeable bar handle and a separate centering adaptor for use on shaft with centering hole.

CJ-84C Basic Slotted Yoke Puller. Consists of following parts:

CJ-84-1B	Slotted Yoke
CJ-84-4	13″ Pressure Screw
CJ-84A-2	10″ Stud (2 included)
ME-5A-16	Washer (2 included)
CJ-84-16	Centering Adaptor

CJ-840C Universal Slotted Yoke Puller. Consists of the CJ-84C Set above and all other additional parts listed below.

Additional Parts

CJ-84-3	20″ Stud (2 included)
CJ-84-5	5″ Stud (2 included)
Adaptors	2 of each included

CJ-84-6	5/16″-24	**CJ-84-10**	⅜″-16
CJ-84-15	5/16″-18	**CJ-84-11**	½″-13
CJ-84-7	⅜″-24	**CJ-84-12**	⅝″-11
CJ-84-8	7/16″-20	**CJ-84-17**	⅝″-18
CJ-84-18	7/16″-14	**CJ-84-13**	¾″-16
CJ-84-9	½″-20	**CJ-84-14**	¾″-10

Ⓒ HEAVY BAR-TYPE PULLER

CG-350 Heavy Duty Bar Type Puller. Consists of the parts listed below and illustrated at left. Weight 50 lbs.

Provides up to 50 tons of power. The yoke is 2½″ square stock 16″ long, grooved to permit pulling objects with openings or tapped holes a minimum of 6″ apart, center to center. The side rods are threaded at both ends for greater ease in setting up the puller. Rods can be joined by means of the special connecting nuts to provide longer reach.

To increase the rigidity of the side rods and to make the unit adaptable for pushing or pulling, an extra set of nuts is included which can be threaded on the rods to contact the underside of the yoke. Tightening the top nuts then locks the rods and yoke together.

For pulling large spoke wheels, etc., 2 adaptor blocks 8″ x 2½″ x 1¼″ are slid over the rods and held in position in back of the wheel by 2 nuts. This puller can also be used in combination with our CJ-951 and CJ-952 bearing separators. Adaptors are included that have ⅞″-14 internal threads to fit the side rods and ⅝″-18 external threads to fit the tapped holes in these bearing separators. Pressure screw hex head fits a 1⅛″ wrench.

CG-350-1 Pressure Screw, 1⅛″-12 thread

CG-350-2 Yoke

CG-350-3 Long Side Rod (2 required)

CG-350-4 Short Side Rod (2 required)

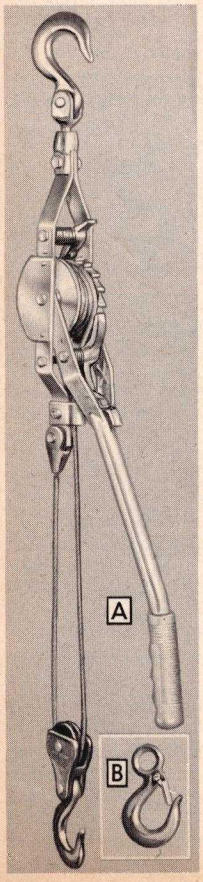
CG-350-5 Side Rod Conn. Nut (2 required)

CG-350-6 Adaptor Block (2 required)

CG-350-7 ⅞″ Hex Nut (6 required)

CG-350-8 Clip Washer (2 required)

CG-350-9 Bearing Separator Adaptor (2 req.)



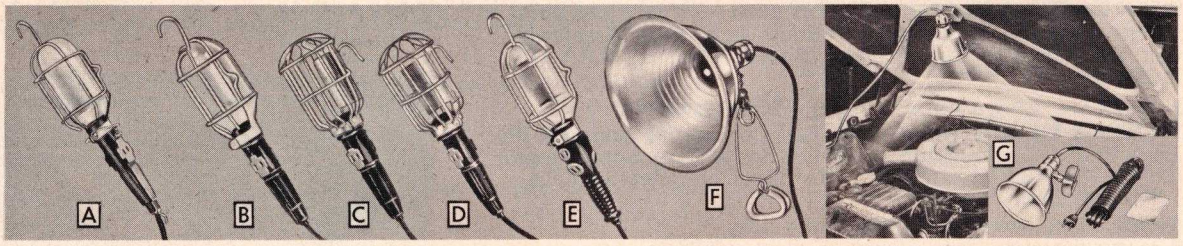
VERSATILE TWO-TON LIFTING-PULLING TOOL

A versatile tool that does a wide range of jobs. Two-ton capacity permits lifting heavy loads such as engine blocks and machinery etc. The tool can be used as wire or fence stretcher, for binding truck loads, for timber and trail work in logging camps, for repairing conveyor chains, for stringing and guying work by power line crews, etc.

Features of the tool include: Forged steel slip-hooks — aircraft type heat-treated bolts — high strength steel frame — heat-treated castings — aluminum alloy ratchet wheel — 3/16″ cable swaged to aircraft specifications — steel parts are cadmium plated. The anchored hook swivels a full 360°. An automatic "let-down" provides speedy release, one notch at a time. Minimum distance between hooks is 24″, maximum lift is 6 feet. Leverage ratio is 36:1.

Ⓐ **GA-197 Two-Ton Lifting-Pulling Tool**

Ⓑ **GA-197-1 Optional Safety Hook.** Spring loaded catch prevents loads from slipping off the hook.



EXTENSION LIGHTS

Ⓐ **EC-387 Grounded type, UL approved 3 conductor Extension Lights.** Built to give rugged service life. The grease resistant, vinyl handle has tool outlets on each side — one is a three conductor, grounded outlet and the other is a two conductor outlet. The handle also has a push-through type switch. This light has a 25 foot, 16 gauge, 3 conductor, rubber covered cord with a three prong grounding type plug. Each lamp guard is grounded for extra safety. Swing-open guard permits easy bulb replacement, and has a hanging hook. These extension lights are of high quality material and workmanship and have full UL approval.

Ⓐ **EC-388 Extension Light.** Has the same features as the EC-387 plus the advantage of a 50-foot cord.

The following extension lights carry Underwriter's Approval. Vinyl handles have 2-conductor outlets on both sides. Easy-to-use button switch. Guards have hanging hook.

Ⓑ **EC-338 25 Foot Extension Light.** Rubber covered 18 gauge flexible cable. Swing-open guard.

Ⓒ **EC-378 Heavy Duty 25 Foot Extension Light.** Neoprene covered 16 gauge flexible cable. End-opening guard. Armored cable-grip plug has spring action blades.

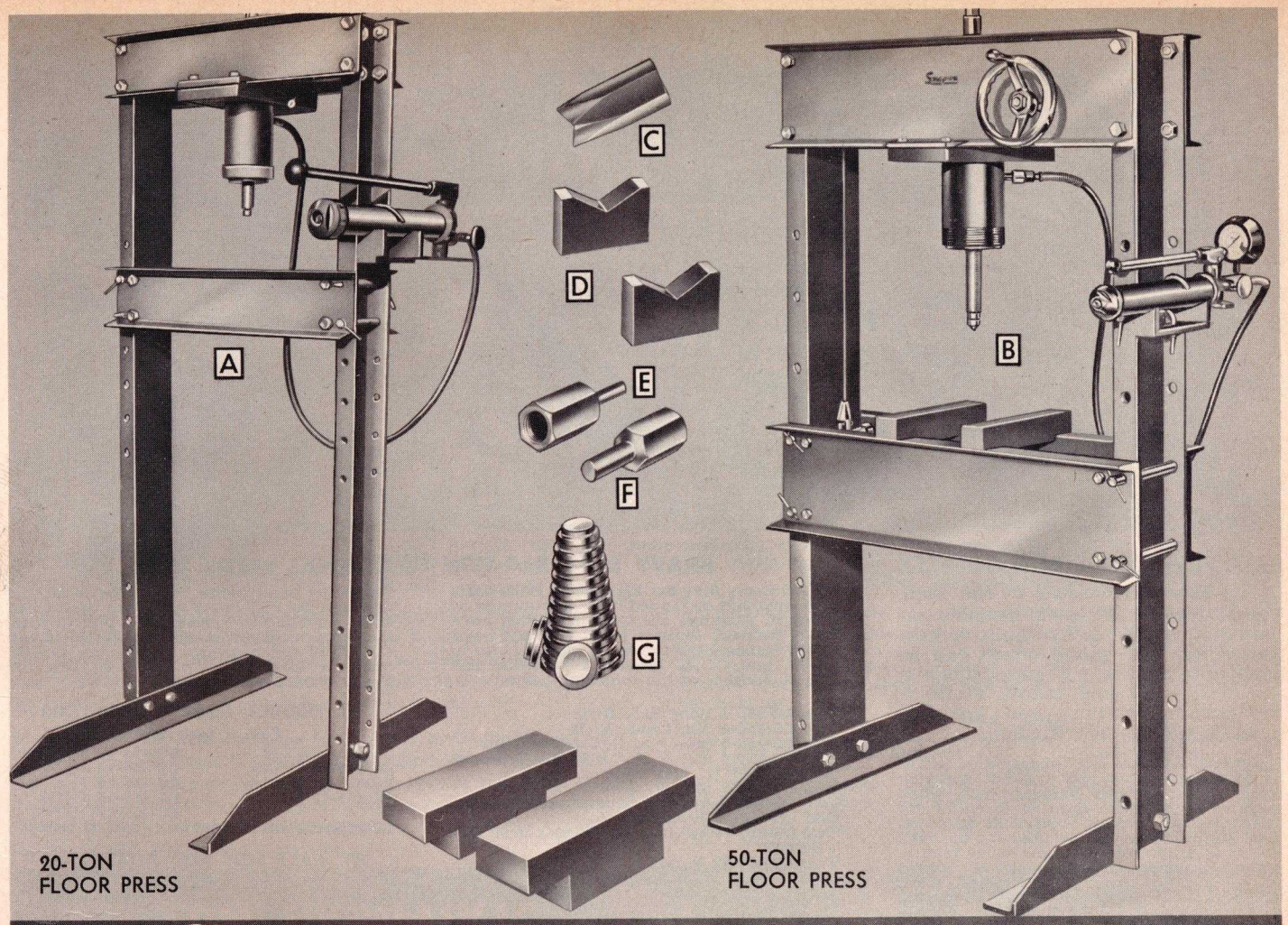
Ⓓ **EC-379.** Same as EC-378 but with 50 foot cord.

Ⓔ **EC-641 25 Foot Extension Light.** Push through switch. 18 gauge flexible cable. Swing-open guard with hook.

EC-629 50 Foot Extension Cord. 12 gauge .55 O.D. "S" type flexible cable, 3 conductor, with heavy duty armored grip connectors.

Ⓕ **EC-150 Flood Light.** 8½″ diameter reflector with swivel spring clamps and 20 feet of rubber covered cord.

Ⓖ **EC-16 Magnetic Base Extension Light.** For general purpose use, can be attached to virtually any ferrous metal surface in any position — under the hood of a car, beneath a car, under a fender, etc., wherever a directed light source is needed. The 4½″ diameter reflector swivels for easy adjustment. Permanent magnet has 45 lb. pull. 20 foot, UL approved cord allows plenty of reach. Metal plate provided for a floor base or hanger. This unit is very handy for industrial and automotive mechanics.



Snap-on® FLOOR PRESSES DELIVER TONS OF POWER

FOR FAST, EFFICIENT PRESSING, BENDING, STRAIGHTENING, ASSEMBLING OPERATIONS

These powerful presses are ruggedly constructed of channel iron, well proportioned to deliver the maximum power capacity of the hydraulic pump and ram assembly. Garages and industrial shops will find unlimited uses for them in all kinds of bending, straightening, and pressing operations in assembly and maintenance work. Working time can be cut from hours to minutes. The ram can be moved to any desired lateral position to accommodate various work shapes. Two work blocks (included) slide on the work rails for fast positioning beneath the ram, and are held in alignment by the extended boss at the bottom. Work rails are locked in position by four pins and can be raised or lowered in 3" increments on the 20-ton and 6" on the 50-ton units. The pump can be mounted at any desired height for operating convenience.

20-TON PRESS SETS

Ⓐ **CG-470-HYA Complete 20-Ton Floor Press Set.** Includes the CG-470A Basic Press Set and the CG-420A Pump and Ram Assembly as illustrated.

CG-470A Basic 20-Ton Set. For present owners of the CG-420A Pump and Ram Assemblies. Includes the frame, work blocks and pump mounting hardware.

50-TON PRESS SETS

Ⓑ **CG-570-HY Complete 50-Ton Floor Press Set.** Includes the CG-570A Basic Press Set, CG-421 Pump and Ram Assembly, CG-420-5A Pressure Gauge and CG-420-6 Gauge Adaptor.

CG-570A Basic 50-Ton Set. For present owners of the CG-421 Pump and Ram Assembly. Includes the Frame, Work Blocks and Pump Mounting Hardware.

OPTIONAL ACCESSORIES FOR 20-TON FLOOR PRESS

Ⓒ **CG-471-1** Pressure Screw Vee Adaptor
Ⓓ **CG-471-2** Vee Block (2 required)
Ⓔ **CG-471-3** ½" Bull Nose Screw Adaptor
Ⓕ **CG-471-4** ¾" Bull Nose Screw Adaptor

Ⓖ STEP PLATES

CG-471-5 1⅝" x 1¼"
CG-471-6 1¾" x 1⅜"
CG-471-7 1⅞" x 1½"
CG-471-8 2 1/16" x 1⅝"
CG-471-9 2 3/16" x 1¾"
CG-471-10 2 3/16" x 1⅞"
CG-471-11 2 7/16" x 2"
CG-471-12 2⅝" x 2⅛"
CG-471-13 2¾" x 2¼"
CG-471-14 2⅞" x 2⅜"
CG-471-15 3" x 2½"
CG-471-16 3¼" x 2¾"
CG-471-17 3½" x 3"

CG-471 Complete Set of 18 items above.

OPTIONAL ACCESSORIES FOR 50-TON FLOOR PRESS

CG-471-5 through CG-471-17 Step Plates
CG-471-2 Vee Block (2 Required)
CG-550-13 1" Bull Nose Screw Adaptor
CG-550-14 1¼" Bull Nose Screw Adaptor

Now! Save time with your own hydraulic floor press . . . don't waste valuable time and profits by sending pressing jobs out. Start making extra money for your own shop with one of these powerful, fast-working units now—pay for it out of profits. Chances are you already own the hydraulic pump and ram assembly.

PARTS COMPRISING THE BASIC FLOOR PRESSES

CG-470A 20-Ton Press	Description	CG-570A 50-Ton Press
CG-470	Press Frame	CG-570
CG-470-12	Work Block (2)	CG-570A-12
CG-470-13	Ram Back Plate	CG-570A-13
CG-470-14	Back Plate Gibs (2)	CG-570A-14
CG-470-15	Gib Cap Screws (4)	CG-570A-15
CG-470-16	Pump Bracket Assembly	CG-570A-16
CG-470-17	Back Plate Screw (4)	CG-570A-17

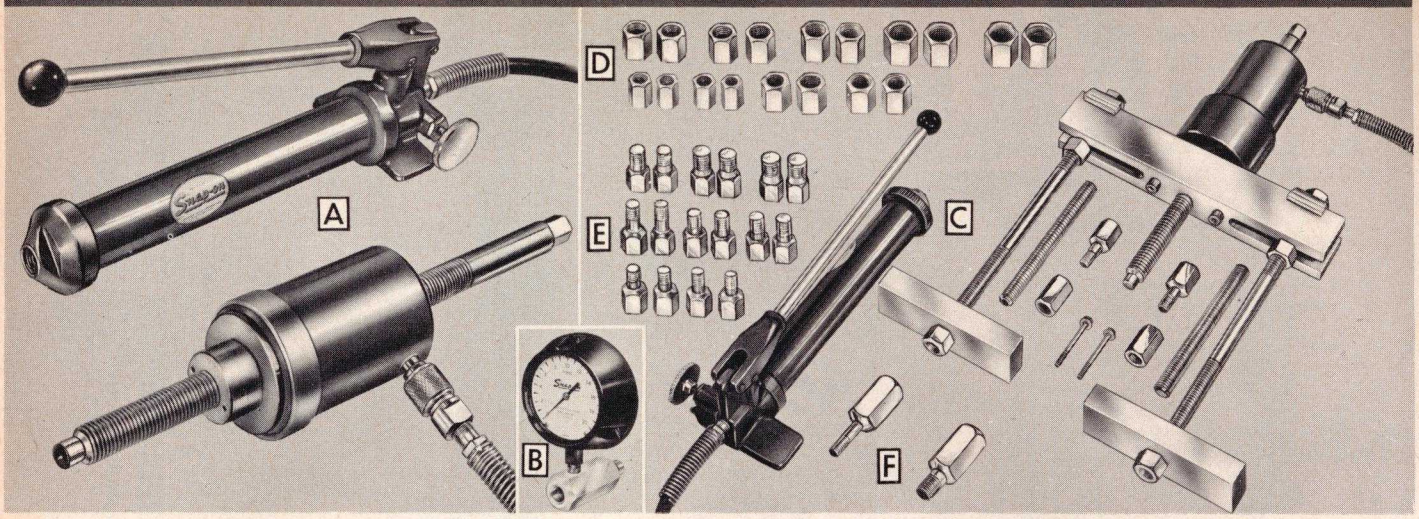
UNITS COMPRISING THE COMPLETE FLOOR PRESSES

CG-470-HYA 20-Ton Press	Description	CG-570-HY 50-Ton Press
CG-470A	Basic Press Set	CG-570A
CG-420A	Pump, Ram, Hose and Coupler	CG-421
—	Gauge	CG-420-5A
—	Gauge Adaptor	CG-420-6

PRINCIPAL SPECIFICATIONS

CG-470AYA 20-Ton Press	Description	CG-570-HY 50-Ton Press
20 Tons	Capacity	50 Tons
5 Feet	Overall Height	6 Feet
2 x 3 Feet	Base Area	3 x 3½ Feet
2 Feet	Distance Between Vert'l Side Beams	3 Feet
5" Chan'l Iron	Side Beams	8" Chan'l Iron
5" Chan'l Iron	Head Rails	10" Chan'l Iron
5" Chan'l Iron	Work Rails	10" Chan'l Iron
3 Inches	Minimum Work Distance	4 Inches
40¾ Inches	Maximum Work Distance	38½ Inches

Snap-on® 20-TON HYDRAULIC PULLER SETS



RAM, PUMP, HOSE AND COUPLER

Ⓐ **CG-420A Set** consists of the Ram, Pump, Hose and Quick Coupler assembly. It is a 20 ton hydraulic, hollow center ram and pump which can be adapted to hundreds of applications in the mechanical and industrial fields for pushing, pulling and pressing, quickly, safely and efficiently.

THE CG-420-1A RAM is 4″ in diameter and 6″ long. It has a 2″ stroke and has a spring return which brings plunger back when pressure is released. Ram is threaded for attachment to various yokes and adaptors. Ram and adaptor can be used on the outside of a puller yoke — an exclusive feature — that provides an additional 6″ longer reach. This also places yoke closer to work which prevents bucking or rolling during operation. Has 4 tapped holes to facilitate mounting to attachments, fixtures, floor press etc. Pressure screw has 1⅛″-7 thread.

THE CG-420-2A PUMP is hand operated, single stage, single action with .172 cubic inch displacement per stroke. It is equipped with an accumulator sack which allows pump operation in any position, eliminates back pressure and helps keep oil free from contamination. Ball type valves are used and valve seats are replaceable which greatly increases life of pump. The cylindrical pump measures 2¼″ diameter and is 16½″ long. The 18¼″ handle provides ample leverage for easy pump operation. A built-in safety valve automatically releases pressure as soon as 9200 p.s.i. is reached. At this pressure 20-tons of force are applied by the ram. A pressure release screw releases all pressure in pump, ram and hose. Hose is 6 feet long.

Ⓑ **CG-420-5A Pressure Gauge.** Calibrated for use with our 10, 20 and 50-ton hydraulic pullers. Shows amount of pressure applied. 3½″ dial.

CG-420-6 Gauge Adaptor. For attaching gauge to the 20 and 50-ton units.

CG-120-15 Gauge Adaptor. For attaching gauge to the BJ-4-2A Pump in the CG-122 10-ton unit.

HEAVY DUTY BAR-TYPE PULLER HAS MANY USES

CG-450 Heavy Duty Bar-Type Puller. Pulls parts with openings or tapped holes a minimum of 6″ apart. Adaptors are included which have ⅞″-14 internal threads to fit side rods and ⅝″-18 external threads to fit tapped holes in CJ-951 and CJ-952 bearing separators. The CG-450 consists of the following parts:

Two **CG-350-3** Long Side Rods
Two **CG-350-4** Short Side Rods
Two **CG-350-5** Side Rod Connecting Nuts
Two **CG-350-6** 2½″ x 1¼″ x 8″ Adp't Blocks
Six **CG-350-7** ⅞″ Hex Nuts
Two **CG-350-8** Slip Washers
Two **CG-350-9** Bearing Separator Adaptors
One **CG-450-10** Hydraulic Yoke
Two **CG-450-11** ½″-13 x 3¼″ Socket Head Cap Screws
Two **CG-450-12** 5/16″-18 x 3″ Cap Screws
One **CG-425-9** Ram Adaptor

Ⓒ **CG-450HYA Complete Puller Set** consists of CG-420 Ram, Pump, Hose and Coupler Assembly and CG-450 Puller (above).

Available for use with the CG-450 Puller is the CG-455 Set of Male Adaptors for use when a tapped gear or wheel is to be pulled, and for pressing when tapped holes surround the piece being worked on. Also, the CG-455A Set of Female Adaptors, used when studs surround the piece to be pulled. Also, two Pressure Screw Adaptors, CG-455-18 and CG-455-19 for hook-ups where the CG-450 must be used as a "pusher" so that the Power Ram Screw "pulls."

Ⓓ DOUBLE FEMALE ADAPTORS

Two of Each Shown

CG-455-9 ⅝″-18	**CG-455-13** 1⅛″-12
CG-455-10 ¾″-16	**CG-455-14** 1¼″-8
CG-455-11 1″-14	**CG-455-15** 1¼″-12
CG-455-12 1⅛″-8	**CG-455-16** 1½″-8
	CG-455-17 1½″-12

CG-455A Set of 18 Adaptors (two of each).

Ⓔ MALE SIDE ROD ADAPTORS—

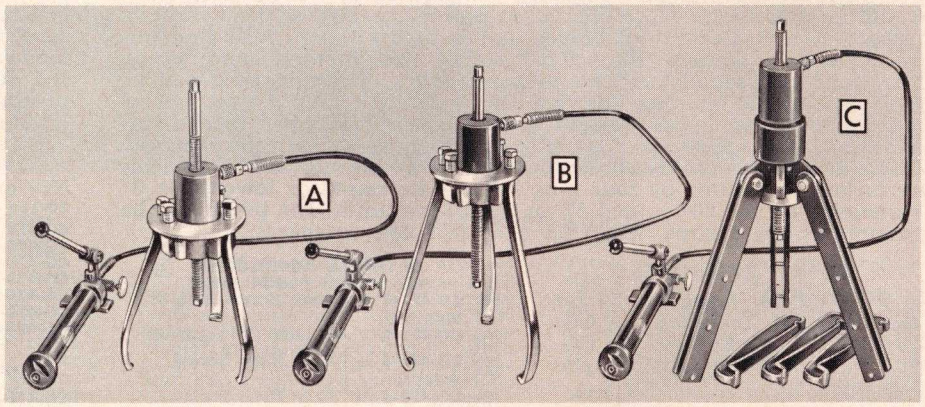
Two of Each Shown

CG-455-1 ⅝″-18	**CG-455-5** ⅞″-9
CG-455-2 ⅝″-11	**CG-455-6** 1″-14
CG-455-3 ¾″-16	**CG-455-7** 1″-8
CG-455-4 ¾″-10	**CG-455-8** 1⅛″-12

CG-455 Set of 16 Adaptors (two of each).

Ⓕ **CG-455-18 ⅝″-18 Pressure Screw Adaptor.**

Ⓕ **CG-455-19 ⅞″-14 Pressure Screw Adaptor.**



EVEN PULLING POWER TO LOOSEN THE TIGHTEST GEAR

CG-400 Puller uses our standard 300-3 jaws with a combination yoke (CG-400-2) with a locking plate and studs which thread directly to the ram. The yoke is of 2-jaw and regularly spaced 3-jaw design with provision for specially spaced 3-jaw operation for use on 5-spoked gears and wheels. This yoke has all the locking and safety features of our standard CG-type pullers. Puller has a reach of 9½″ and spread of 13″. The CG-400 Puller consists of the following:

One **CG-400-2** Combination Yoke
Three **CG-300-3** Jaws
One **CG-400-5** Locking Plate
Four **CG-400-6** Springs
Four **CG-400-7** Adj. Studs

Ⓐ **CG-400HYA Hydraulic Puller Set** consists of the CG-420 Ram, Pump, Hose and Quick Coupler assembly and the CG-400 Puller.

CG-405 Puller same as the CG-400 except it has the CG-305-9 jaws to provide 14″ reach and 15″ spread.

Ⓑ **CG-405HYA Hydraulic Puller Set** consists of CG-420 Ram, Pump, Hose and Coupler assembly and CG-405 Puller.

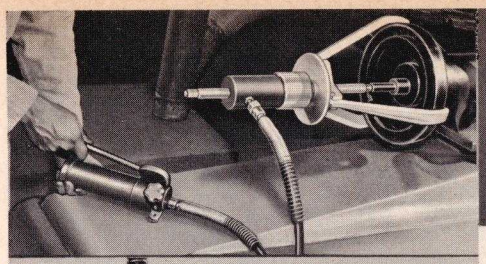
EXTRA HEAVY DUTY PULLER FOR THOSE TOUGH JOBS

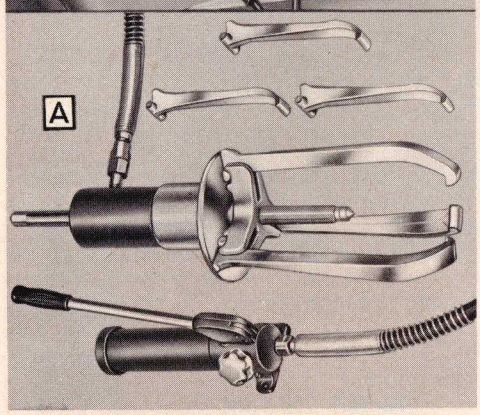
CG-425 Puller has adaptors which allow the ram to be attached to the yoke for various pulling operations. This Puller will handle gears and pulleys up to 20″ diameter and has a reach of 19″. Adaptable as either a 2-jaw or 3-jaw puller. Yokes and jaws are heat treated malleable iron, comparable in strength to heat treated alloy forgings. The CG-425 Puller consists of the following:

One **CG-325-2** Yoke
Three **CG-325-3** Jaws
Three **CG-325-4** Side Arms
Three **CG-325-5** Arm Bolts
Three **CG-325-6** Side Arms
One **CG-325-7** Washer Adaptor
Two **CG-425-8** ½″-13x4½″ Socket head cap screws
One **CG-425-9** Ram Adaptor

Ⓒ **CG-425HYA Hydraulic Puller Set** consists of the CG-420 Ram, Pump, Hose and Quick Coupler assembly and the CG-425 Puller. Adaptors are required to adapt ram to puller, or puller to part being worked on. CG-425-9 Adaptor used for mounting ram on top of puller. This allows closer hook-up for pulling and reduces danger of rolling. CG-425-7 Adaptor is used as retainer with the CG-425-9 when adapting ram to CG-425 puller.

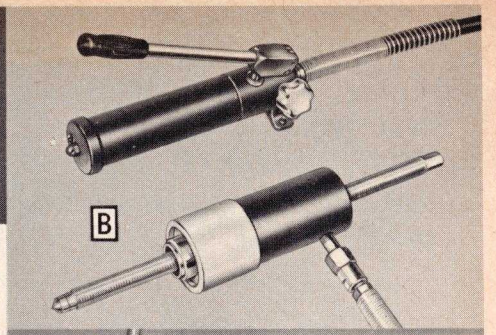
10 TON HYDRAULIC PULLER SETS

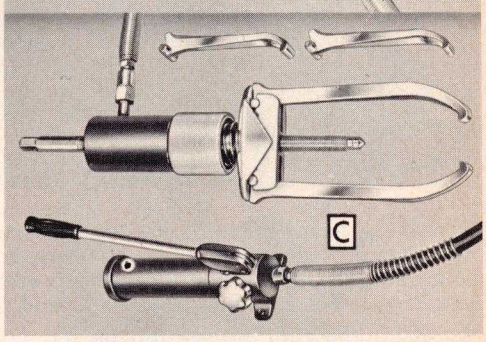




PORTABLE . . . VERSATILE

These 10 ton hydraulic pullers make quick and easy work of stubborn pulling jobs. Their comparative light weight and compact size allow easy transport. Come with both large and small jaws which reverse for inside or outside grip. Spring tension holds jaws on the job. Spring loaded ram automatically retracts workhead when pressure is released. Pump has automatic cutout at 10 tons to protect against overloading. Six foot hose has ¼" diameter and spring guards on both ends. Coupler permits hose removal without loss of fluid. Ram and pump assembly adds hydraulic power to many SNAP-ON mechanical pullers.





Ⓐ **CG-275-HY Complete 3-jaw, Hydraulic Puller Set** with two sizes of reversible jaws for inside or outside grips. Consists of CG-122 ram and pump assembly, three CG-270-3 short jaws, three CG-270-10 long jaws, CG-273-5 locking plate, CG-270-6 spring, CG-273-15 yoke, and CG-270-16 hand wheel adaptor. Net weight is 30 lbs.

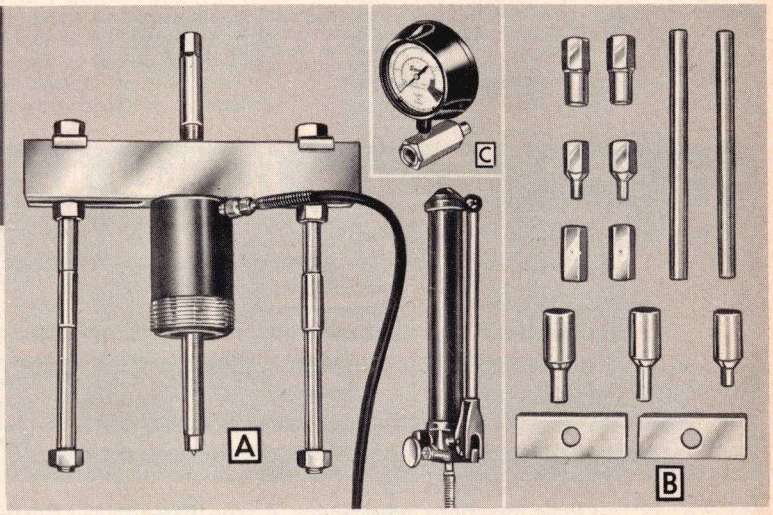
Ⓑ **CG-122 10 Ton Ram and Pump Set** provides hydraulic power for many pullers. Consists of CG-120 ram, BJ-4-2A pump, BJ-4-3B hose, and BJ-4-4 coupler. Use with CG-270-16 adaptor and either CG-270-15 yoke or CG-273-15 yoke to add hydraulic power to SNAP-ON's CG-2500-B Set, or to the following series of pullers: CG-270, CG-273, CG-280, CG-283. Net weight is 14½ lbs.

Ⓒ **CG-274-HY Complete 2-jaw, Hydraulic Puller Set** for fast and easy hook-up. Same features as set at left except for 2-jaw versatility. Consists of CG-122 ram and pump assembly, two CG-270-3 short jaws, two CG-270-10 long jaws, CG-273-5 locking plate, CG-270-6 spring, CG-270-15 yoke, and CG-270-16 hand wheel adaptor. Net weight of the set is 26 lbs.

SPECIFICATIONS

Puller No.	Short Jaw Spread (Outside)	Short Jaw Spread (Inside)	Max. Reach	Long Jaw Spread (Outside)	Long Jaw Spread (Inside)	Max. Reach
CG-274-HY	0-8½"	2½"-7½"	5⅜"	0-10"	3"-8"	8"
CG-275-HY	0-8½"	2½"-7½"	5⅜"	0-10"	3"-8"	8"

50 TON HYDRAULIC PULLER SETS



CG-559 Complete 50-Ton Hydraulic Puller Set handles the really large, really tough jobs. Bar type construction permits pulls up to 24" wide. Ram has 3" stroke and automatically retracts when pressure is released. Pump has automatic cutout to prevent overloads. This set includes the basic hydraulic puller set pressure gauge with adaptor, and a set of accessory parts and adaptors to handle a wide range of pulling problems. Pump, hose and gauge are interchangeable with our 20-ton pullers.

Ⓐ + Ⓑ + Ⓒ CG-559 COMPLETE 50-TON HYDRAULIC PULLER SET

Consists of all parts shown above and listed below.

Ⓐ CG-555 BASIC 50-TON HYDRAULIC PULLER SET

Consists of the following parts

CG-520	50-Ton Ram
CG-421	Pump Assembly Set
CG-420-2A	Pump
CG-420-3-1	Hose
CG-420-4	Coupler Set
CG-550	Basic Puller Attachment Set
CG-550-2	Yoke 4" x 4" x 24"
CG-550-3	Side Rods 24" (2)
CG-550-7	Hex Nuts 1⅜" (6)
CG-550-8	Clip Washers (2)
CG-550-10	Cap Screws ⅜" (2)

Ⓑ CG-558 PULLER ACCESSORY SET

Consists of the following parts

CG-550-4	Side Rods 18" (2)
CG-550-5	Side Rod Connecting Nuts (2)
CG-550-6	End Blocks 3" x 1¼" x 8" (2)
CG-550-9	Bearing Separator Adaptors (2)
CG-550-11	Side Rod Adaptors ⅞"-14 (2)
CG-550-12	Work Screw Adaptor ⅞"-14
CG-550-13	Bull Nose Adaptor 1"
CG-550-14	Bull Nose Adaptor 1¼"

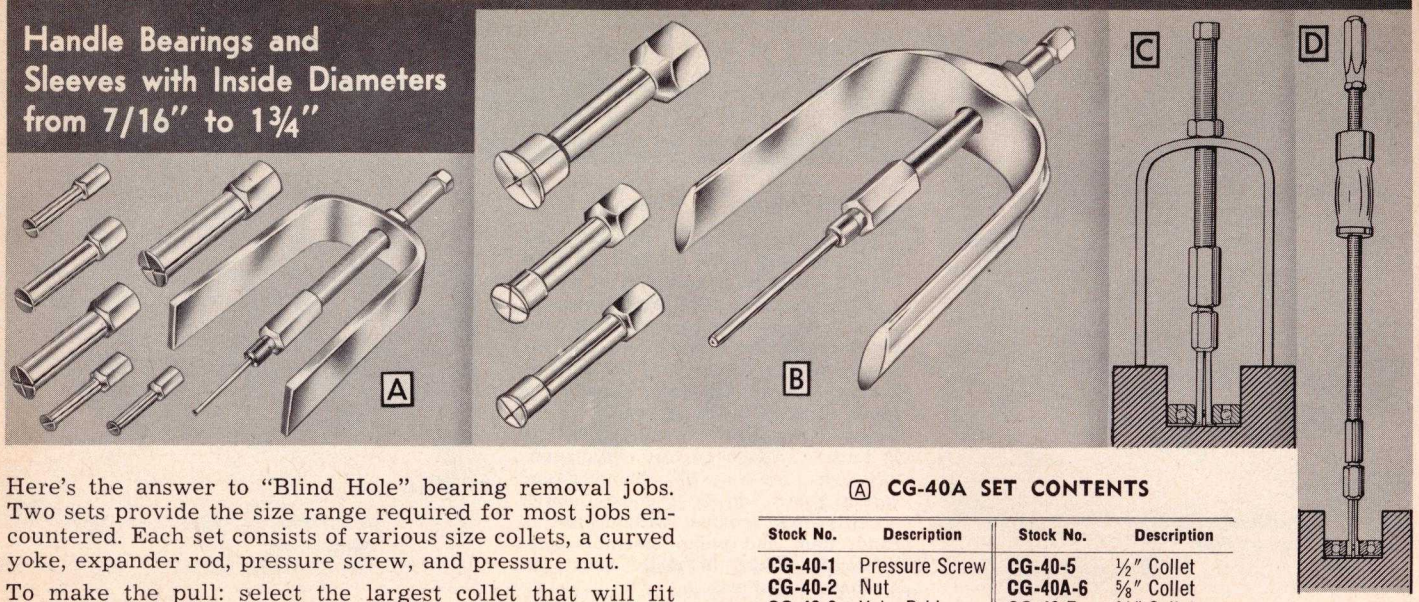
OPTIONAL PRESSURE GAUGE

Ⓒ **CG-420-5A Pressure Gauge.** Shows amount of pressure applied.

CG-420-6 Pressure Gauge Adaptor. For connecting gauge to ram.

Snap-on BLIND HOLE BEARING PULLERS

Handle Bearings and Sleeves with Inside Diameters from 7/16" to 1¾"



Here's the answer to "Blind Hole" bearing removal jobs. Two sets provide the size range required for most jobs encountered. Each set consists of various size collets, a curved yoke, expander rod, pressure screw, and pressure nut.

To make the pull: select the largest collet that will fit through the bearing, thread the expansion pilot into the collet (collets have an internal expansion ball which, when forced forward, expands the collet's segments behind the bearing), bridge the hole with the yoke, attach the pressure screw and turn the pressure nut. For the really stubborn jobs or on "special problem" jobs where the yoke cannot be used, slide hammer power can be substituted to make the pull.

CG-40A Puller has six collets covering a range from 7/16" to 1⅛". ⅝" size can be used on Cummins and other diesel engines. The pressure nut has a 1 5/16" hex. For slide hammer power use a SNAP-ON CG-250-9 hammer and CG-250-8 shaft.

CG-45 Puller has three collets to handle bearings with inside diameters from 1" through 1¾". This set is heavily constructed to withstand the greater stress encountered in removing larger bearings. The pressure nut on this set has a 1⅛" hex. For slide hammer power use a SNAP-ON CJ-97-3 slide hammer and CJ-105-4 shaft.

Ⓐ CG-40A SET CONTENTS

Stock No.	Description	Stock No.	Description
CG-40-1	Pressure Screw	CG-40-5	½" Collet
CG-40-2	Nut	CG-40A-6	⅝" Collet
CG-40-3	Yoke Bridge	CG-40-7	¾" Collet
CG-40-4	Expanding Rod	CG-40-8	⅞" Collet
CG-40-9	7/16" Collet	CG-40A-10	1"-1⅛" Collet

Ⓑ CG-45 SET CONTENTS

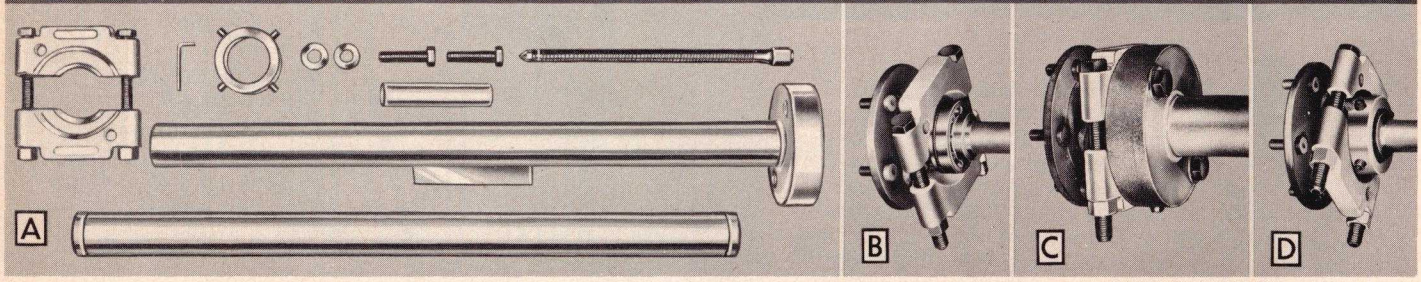
Stock No.	Description	Stock No.	Description
CG-270-1A	Pressure Screw	CG-45-5	1" to 1¼" Collet
CG-45-2	Nut	CG-45-6	1¼" to 1½" Collet
CG-45-3	Yoke Bridge	CG-45-7	1½" to 1¾" Collet
CG-45-4	Expanding Rod		

Ⓒ These pullers can be used with the Pressure Screw included in the sets, or

Ⓓ with Slide Hammer power. See puller descriptions for correct additional parts.

Note: The collets from the above sets are not interchangeable.

Snap-on FLANGED AXLE BEARING PULLER



Pulls Bearings and Inner Races Quickly — Easily Installs Bearings Fast and Efficiently

Ⓐ **CJ-75A Flanged Axle Bearing Puller.** Now you can really speed up bearing removal and replacement on flanged axles of all cars from compacts to luxury models. Ruggedly constructed to provide plenty of tough service life, this new set provides a much safer and easier bearing removal operation than is possible with makeshift tools.

Bearings are almost completely enclosed during removal by a shield on the puller housing which greatly minimizes the danger of flying fragments. The sturdy 1" diameter pressure screw centers easily on the axle shaft providing positive pulling power. A gripping flange on the housing lets you conveniently mount the unit in a vise for removal of bearings. An adjustable bearing race collar lets you quickly remove inner races from any broken bearings. Another adaptor, **CJ-75-5,** handles short axles such as those used on early model Falcons and Comets.

In addition to these time-saving, money-making features, its operation is simple. To remove a bearing; install the adjustable bearing separator behind it, position the puller housing over the axle, bolt it to the separator and you're ready to go. A standard 1⅛" wrench or socket and impact wrench combination can be used to turn the pressure screw for easy bearing removal. Installation is easy too. The driving tube has a solid anvil to withstand repeated hammer blows and provides a straight, directed driving force on the new bearings and retainers. Flanged axle bearings are no longer a problem. Remove them efficiently and easily with this tool, which will pay for itself on the first few jobs.

Ⓑ **Bearing is gripped securely to provide a positive pull.**

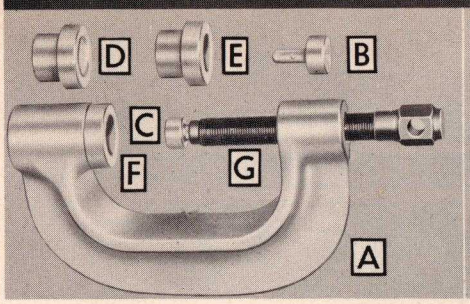
Ⓒ **Housing encloses bearing to protect against fragments if breakage should occur.**

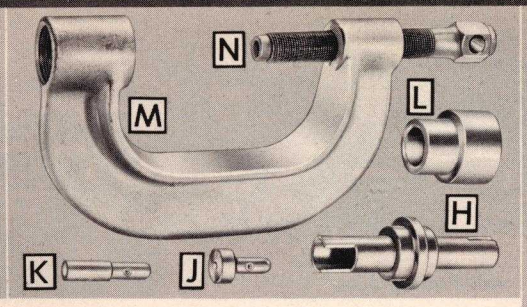
Ⓓ **Inner race from broken bearings easily removed with adjustable adaptor.**

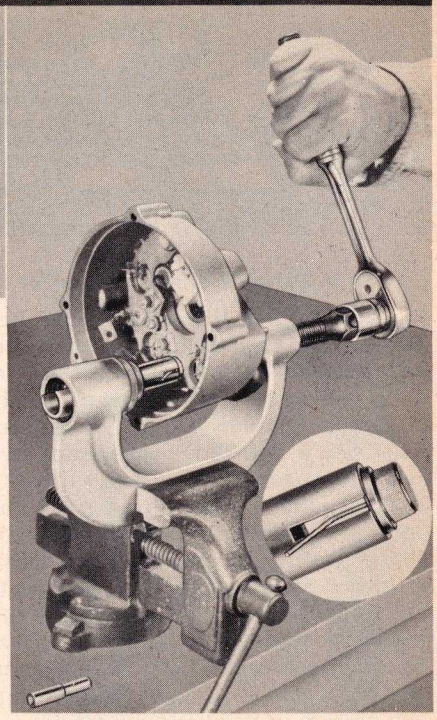
CJ-75A PULLER SET CONTENTS

Stock No.	Description	Stock No.	Description
CJ-75A-1	Bearing Puller Housing	66-15-3	Centering Adaptor
CJ-75-2	Inner Race Adaptor	ME-3F-18	Screws (4)
CJ-75-3	Bearing Driver Tube	ME-3A-18	Bolts (2)
CJ-75-4	Bearing Separator	ME-5A-19	Washers (2)
CJ-75-5	Falcon-Comet Axle Adaptor	AW-7	Hex Head Wrench
CJ-84-4	Pressure Screw		

SMALL PRESSES AND PULLERS







Above: Using the CJ-96-B parts to replace an alternator diode.

UNIVERSAL JOINT BEARING TOOL REMOVER AND REPLACER

CJ-91C Universal Joint Tool. Now more versatile than ever ... parts listed below permit servicing universal joints on all cars, including Compacts and foreign cars. Removes and replaces all universal joint needle-type bearings. Eliminates hammer and punch methods which may result in injury due to flying parts. It can be used on the car or at the bench and permits easy and profitable joint lubrication. Removable bushings provides for use on either car or truck joints. The 8½" screw can be turned with any ⅞" wrench or a bar. Position tool around the bearing and tighten screw until lock ring can be removed — reverse tool and press the opposite bearing until its lock ring can be removed — additional pressure will force out the first bearing. Reverse the tool again to push out the second bearing. Re-assemble bearings in original positions. Lock rings or plates located outside the bearings must be removed before applying tool.

- (A) **CJ-91C-1** Frame, 10" overall length and having a throat length of 6⅜".
- (B) **CJ-91-2** ..... Large Expansion Plug
- (C) **CJ-91-6** ..... Small Expansion Plug
- (D) **CJ-91-4** ..... Small Bearing Driver
- (E) **CJ-91-3** ..... Bushing Adaptor 1$\frac{1}{32}$" I.D.
- (F) **CJ-91-5** ..... Bushing Adaptor 3$\frac{1}{32}$" I.D.
- (G) **CJ-91-7** Pressure Screw, ¾"-16 thread. Has ⅞" hex head.

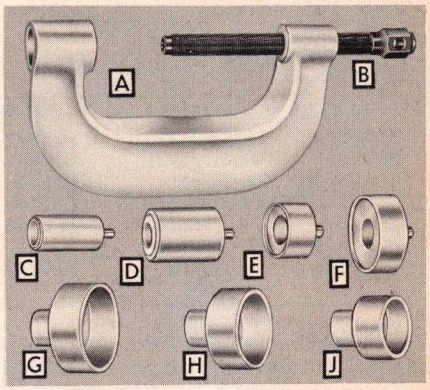
ALTERNATOR DIODE REMOVER AND REPLACER

CJ-96B Press Set. Will remove or replace all removable types of alternator diodes easily with gentle, evenly distributed pressure. Use of this tool reduces the possibility of damage to the diode sealant or contacts. Clamp the frame in a vise for convenience. To remove diodes, use the CJ-96-3 adaptor in the pressure screw and the CJ-96-1 support in the frame with the large single slotted end set against the inside of the alternator and over the diode. To replace the diodes, the CJ-96-1 support is placed in reverse position in the frame and the diode is set in the recessed double slotted end of the support. The support fits against the shoulder of the diode and the diode wire or lead may protrude through the slot. The CJ-96-2 replacer is set in the pressure screw and the diode replacement may be made. The CJ-96-2 replacer and frame can be used for pressing end bearings into some alternators.

The CJ-96-4 Adaptor is needed on alternator stator windings that are difficult to remove. The adaptor is placed in the bearing press, opposite the screw, the CJ-96-1 Diode Support is then inserted inside the adaptor and pressure is applied to remove the stator winding. The adaptor is also used on Chrysler Product Alternators to prevent damage to the diodes during removal.

CJ-96B Alternator Diode Press Set. Includes all parts as listed below.

	Stock No.	Description
(H)	**CJ-96-1**	..... Diode Support
(J)	**CJ-96-2**	..... Diode Replacer
(K)	**CJ-96-3**	..... Diode Remover
(L)	**CJ-96-4**	..... Diode Suport Adaptor
(M)	**CJ-91C-1**	Frame, 10" overall length and having a throat length of 6⅜".
(N)	**CJ-91-7**	Pressure Screw, ¾"-16 thread. Has ⅞" hex head.



BALL JOINT PRESS

CJ-76 Ball Joint Press Set. For removing and installing pressed-in type of lower ball joints used on many late model General Motors cars. It works fast and efficiently and eliminates such methods as cutting, burning or punching the old unit out. It also provides the correct way to install a new one, greatly minimizing any chance of damaging the control arm or the new ball joint.

The Drive Adaptors are used to press ball joints out or in. The shank of each has a friction ball which secures it in the pressure screw. Receiving Adaptors needed for leverage during pressing operations have different dimensions to accept various size ball joints.

CJ-76 Set Consists of These Parts

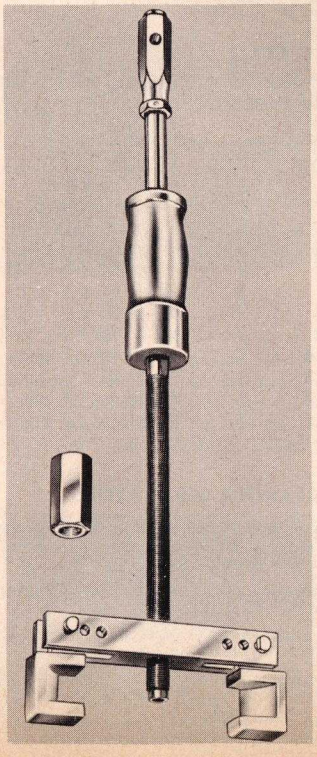
- (A) **CJ-91C-1 Frame.** 10" overall length and having a throat length of 6⅜".
- (B) **CJ-91-7 Pressure Screw.** ¾"-16 thread. Has ⅞" hex head.

Driving Adaptors

- (C) **CJ-76-1** ⅞" I.D., 1⅛" O.D., 2¾" long.
- (D) **CJ-76-2** 1$\frac{3}{16}$" I.D., 1¾" O.D., 3" long.
- (E) **CJ-76-3** 1⅝" I.D., 1¾" O.D., 1$\frac{11}{16}$" long.
- (F) **CJ-76-6** 2$\frac{5}{16}$" I.D., 2½" O.D., 1$\frac{1}{16}$" long.

Receiving Adaptors

- (G) **CJ-76-4** 1$\frac{11}{16}$" I.D., 2" O.D., 2$\frac{3}{16}$" long.
- (H) **CJ-76-5** 2¼" I.D., 2$\frac{9}{16}$" O.D., 2¼" long.
- (I) **CJ-76-7** 2½" I.D., 2⅞" O.D., 2¼" long.



FLANGE TYPE AXLE SHAFT PULLER

This rear axle puller is designed for pulling flange-type axles on all late model Ford, General Motors and other products. It is engineered for fast, efficient service. It does not require bolting to the axle flange, you simply slide the jaws over the flange and you are ready to remove the axle by means of the slide hammer.

Tool consists of a pressure screw, slide hammer, a yoke and a pair of jaws. Owners of one of our slide hammer pullers CJ-66A, CG-270H or CG273H can use the slide hammer for this operation by merely buying the CJ-85-1 Yoke, two 66-9A Pins and a set of CJ-97-1X jaws.

For greatest convenience, get the complete puller and be ready to handle these axle jobs quickly, easily and profitably. Overall length is 24½", weight 10½ lbs.

CJ-97B Complete Axle Shaft Puller

CJ-97-1X Pair of Jaws

CJ-105-4 Slide Hammer Shaft

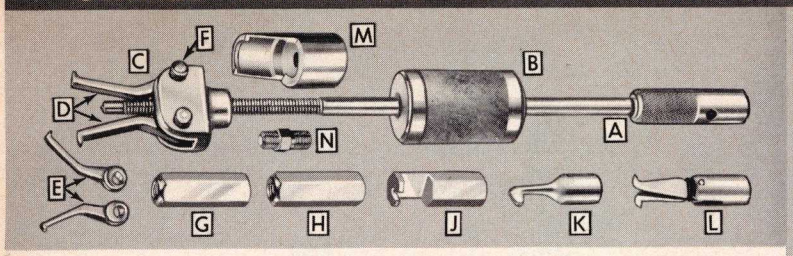
CJ-97-3 Slide Hammer

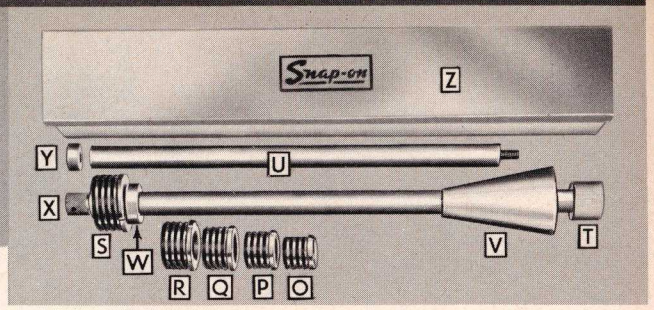
CJ-97-4 Chrysler Axle Shaft Adaptor

CJ-85-1 Yoke. (¾"-16 thread)

CJ-105-11 Jaw Pin (2 required)

SMALL VERSATILE PULLER SET....CAMSHAFT BEARING INSERTER





A Universal Tool for a Variety of Small Pulling Jobs

CJ-93A Small Slide Hammer Puller Set. Remove small bushings, seals, sleeves, bearings, bronze or oilite bushings, pressed in bolts, etc. A special adaptor in the set is used to pull out dents and creases in body panels. Truly a versatile tool, this puller set contains all the components shown above and listed below. The slide hammer and screw provide the necessary power for breaking loose those tight fitting parts; the bearing puller head assembly is designed for grip operations and has two pairs of jaws. The larger jaws are for removing bronze or oilite bushings without crushing them. The smaller jaws have many small pulling applications. The expandable grease retainer puller head pulls seals on power steering units, water pumps, various bearings and races; the bearing hook is very effective for removing seals with the shaft in place; body dent puller head lets you remove dents and creases in body and fender panels; the two stud puller heads are used for pulling pressed in studs which have exposed threads.

CJ-93A Set Contains one each of the following:

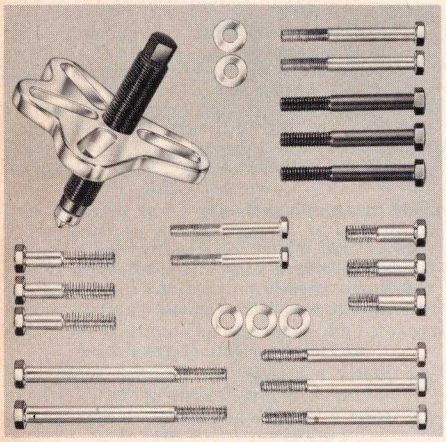
Stock No.	Description	Stock No.	Description
A CJ-93-1	Slide Screw	H CJ-93-7	5/16"-24 Stud Adaptor
B CJ-93-2	Slide Hammer	J CJ-93-6	Body Dent Adaptor
C CJ-93-3-1	Jaw Holder	K CJ-93-5	Bearing Hook
D A-78-3	Large Jaw (2 Req.)	L CJ-93-4	Grease Retainer Adapt.
E A-78-4	Small Jaw (2 Req.)	M CJ-93-9	Windshield Wiper Arm Assembly Puller
F A-78-6A	Jaw Pin (2 Req.)		
G CJ-93-8	3/8"-24 Stud Adaptor	N CJ-93-10	Spring Shackle Pin Adaptor

CJ-93 Small Industrial Puller Set. The above set without the special automotive service parts CJ-93-9 and CJ-93-10.

GA-285 Camshaft Bearing Inserter is a complete set that will remove or insert camshaft bearings in all engines from compact cars to heavy duty trucks. It fits both slightly undersize or oversize as well as standard size bearings. It consists, as illustrated, of a driving shaft extension, expander unit (fits either shaft or extension), five split driving plugs, two driving collars, and a centering cone, complete in its own metal case. Range of set is from 1.120 to 2.690. The expander unit has a neoprene sleeve over which the split driving plugs are mounted and expanded to size. Each split driving plug has four neoprene "O" rings which together with the neoprene sleeve provide a double "shock absorber" to prevent damage to the new bearing.

Set Consists of the Following Parts

- O **GA-285-1** Expanding driver range from 1.475 to 1.700
  GA-285-2 Set of 4 "O" rings for the GA-285-1
- P **GA-285-3** Expanding driver range from 1.700 to 1.925
  GA-285-4 Set of 4 "O" rings for the GA-285-3
- Q **GA-285-5** Expanding driver range from 1.925 to 2.150
  GA-285-6 Set of 4 "O" rings for the GA-285-5
- R **GA-285-7** Expanding driver range from 2.150 to 2.375
  GA-285-8 Set of 4 "O" rings for the GA-285-7
- S **GA-285-9** Expanding driver range from 2.375 to 2.690
  GA-285-10 Set of 4 "O" rings for the GA-285-9
- T **GA-285-11** Driver bar unit
- U **GA-285-12** Driver bar ext.
- V **GA-285-13** Guide Cone
- W **GA-285-14** Expander assembly made up of GA-285-15 knurled expander cone, GA-285-16 set of 4 expander jaws and GA-285-17 expander sleeve. Range 1.120 to 1.475.
- X **GA-285-18** Washer, large
- Y **GA-285-19** Washer, small
- Z **GA-285-20** Metal Box



HARMONIC BALANCER PULLER SET

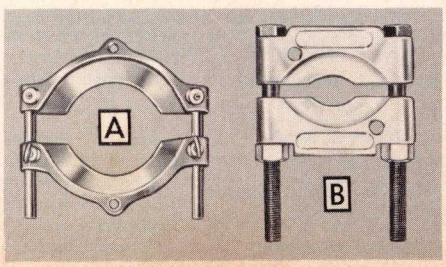
This Puller Set is designed to remove the harmonic balancer or lower crankshaft pulley on most automobiles. It is especially useful on Chevy V-8 engines. Highly versatile, this puller can be used for either 2 or 3-way pulling jobs and can also be used as a steering wheel puller or as a gear or pulley puller on units which have tapped holes. Electric motors, lawn mowers, outboard motors which have tapped holes in their flywheels, gears or pulleys can also be serviced with this versatile tool. The Set consists of a pressure screw and yoke, expansion plug, 15 bolts and 5 washers. Six different bolt sizes are provided which should handle virtually all harmonic balancers. Additional bolts with different thread sizes can be obtained from local hardware stores for specific pulling problems.

CJ-98A Puller Set consisting of the following 26 items:

Stock No.	Quantity	Description
CJ-98-1	1	Puller Yoke
CJ-83-3	1	Pressure Screw
66-15-3	1	Expansion Plug
ME-3A-6	3	3/8"–16 NC x 2" bolt
ME-3A-7	2	3/8"–16 NC x 4½" bolt
ESD-504	3	3/8"–16 NC x 3" bolt
ME-3A-8	2	1/4"–28 NF x 2½" bolt
ME-3A-9	3	5/16"–18 NC x 3½" bolt
ME-3A-10	2	5/16"–24 NF x 3" bolt
ME-3A-15	3	3/8"–24 NF x 1½" bolt
ME-5A-14	2	Washer for 1/4" bolt
ME-5A-15	3	Washer for 5/16" bolt

GENERATOR PULLEY PULLER

A **CJ-88 Generator Pulley Puller.** Works on practically every make of car or light truck with little danger of damage to the pulley or the generator. Capacity ranges from 1¾" to 4¼". The two sections slide together on side shafts to fit the job and wing nuts lock the position. Actual pulling may be done with the CJ-83B or CJ-87 Timing Gear Pullers, each section has a 3/8"-16 tapped hole to accept the threaded studs, or jaw-type pullers may be hooked behind the slide shafts. Forged steel sections taper to the center for easy entry.



BEARING SEPARATORS

B For separating and pulling double bearings, closely fit gears, etc. Use with 2 jaw or slotted yoke pullers.

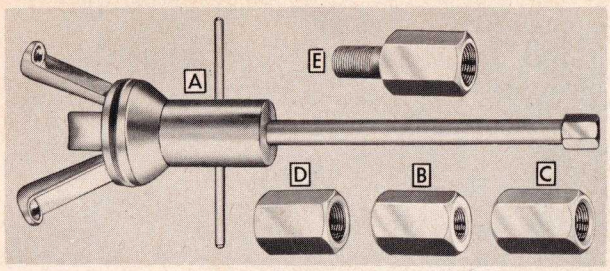
CJ-949 Separator. 1" O.D. Cap. Use with small pullers on 5/16"-18 studs.

CJ-950 Separator. 2¼" O.D. Cap. Use with CJ-83B, CG-250A or 3/8"-16 studs.

CJ-951 Separator. 4¼" O.D. Cap. Use with CJ-84C, CG-270A or 5/8"-18 studs.

CJ-952 Separator. 5¾" O.D. Cap. Use with CG-300 or CJ-84C or 5/8"-18 studs.

AXLE SHAFT PULLER... 3-TON ARBOR PRESS



AXLE SHAFT PULLER

This tool, without the adaptors, will service all Ford and GM cars as well as all cars and light trucks that have flange-type axles. Do the job quickly, easily and safely with plenty of power to break loose the most stubborn axles. Using the four adaptors, almost all makes of cars can be serviced. Tool consists of rugged body assembly with three heavy moveable jaws. The slide hammer has two 4" long handles and weighs 10 lbs. It slides on a 23½" long, 1¼" diameter slide hammer shaft. Shaft has a 1¼"-12 thread at one end a 1½" hex at the other end.

Ⓐ **4567-SH Axle Shaft Puller** (four adaptors listed below not included).

4567-N Slide Hammer Shaft only.

4567-O Slide Hammer only.

4567-Q Base Housing and 3-Jaw Assembly only.

Optional Adaptors

These adaptors thread onto the axle and the opposite end threads onto the 1¼"-12 thread on the other end of the puller slide hammer shaft. A few outward blows with the slide hammer frees the axle.

Ⓑ **4567-N-1 Adaptor for Chrysler Products.** One end has 1¼"-12 thread to fit puller shaft, other end is ¾"-16 to fit axle.

Ⓒ **4567-N-2 Adaptor for Rambler and Studebaker.** One end has 1¼"-12 thread to fit puller shaft, other end is ⅞"-14.

Ⓓ **4567-N-3 Adaptor for Willys Jeep.** One end has 1¼"-12 thread to fit puller shaft, other end is 1"-14 to fit axle.

Ⓔ **4567-N-4 Converting Adaptor.** Converts competitive wheel pullers into slide hammer operation for pulling axles on Ford and GM cars and light trucks. Has a female 1¼"-12 thread for attaching to the 4567-N slide hammer shaft and a male 1"-14 thread that screws into the yoke and jaw assembly of the competitive puller. This permits the owner of a competitive wheel puller to purchase only our 4567-N Slide Shaft, 4567-O Slide Hammer and the 4567-N-4 Adaptor.

3-TON ARBOR PRESS

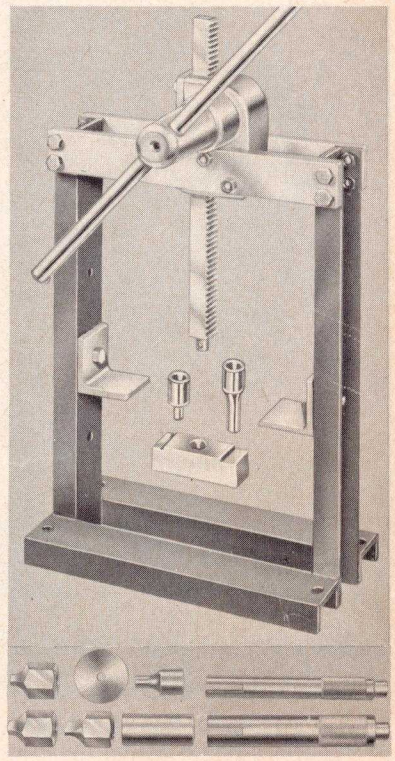
CG-100 Arbor Press. Takes up little work space, yet delivers tremendous pressure for fast, profitable work. Precision gears and quality construction provide straight, wobble-free action for accurate work. Range of applications includes generator, alternator, starter repairs, bushing removal and replacement, etc. The press frame is constructed of 2" channel iron rails. Bottom rails have holes for bolting to a workbench. Steel work support brackets are secured in place on the side rails by heavy bolts. Gearing multiplies handle pressure to deliver up to three tons of force. Included with the press are these three units:

CG-100-14 Utility Punch.

CG-100-15 Work Block

CG-100-16 Adaptor, converts the ½" round drive of pressure shaft to a 5/16" round drive.

Our A-57Q Bushing Driver Set is a good accessory as its adaptors can be used directly on the pressure shaft or on the 5/16" round drive adaptor to provide additional versatility. Our CJ-951 Bearing Separator will fit between the work support brackets to provide a base for such jobs as pulley removal and replacement and drive end bearing removal from the rotor shaft.



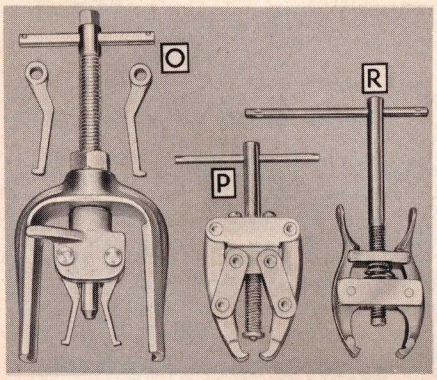
SPECIFICATIONS OF CG-100

18" overall height
11⅛" overall width
11⅛" x 6⅛" base size
12¾" vertical capacity
9" width opening
5" width between work brackets
9" pressure shaft stroke (when utility punch is attached)
17¾" handle length

ATTACHMENT SET

CG-101 Attachment Set. For use with above press in handling starter, generator and alternator repairs. (Not included with the Press.) Set includes:

CG-101-1 Rectifier Support
CG-101-2 Housing Support
CG-101-3 Diode Punch
CG-101-4 Bearing Punch
CG-101-5 Bearing Plate
CG-101-6 Flat Driver
CG-101-7 Square Driver (7/32")
CG-101-8 Square Driver (9/32")



Ⓞ BEARING PULLER

A-78 Bearing Puller. For smaller bearings in motors, generators, magnetos, clutch pilot bearings, etc. It is a screw puller of the leg type, furnished with two sets of jaws — one for small bearings, the other for bronze and Oilite bushings . . . these latter jaws are so built that they will remove these bushings without crumbling them. The smaller jaws handle clutch pilot bearings and other small bearings. The range of this compact tool with both jaws is 25/64" to 1¼".

Replacement Parts Available

A-78-2 ..... Jaw Holder
A-78-3 ..... Large Jaws (2 required)
A-78-4 ..... Small Jaws (2 required)
A-78-5 ..... Pressure Screw
A-78-6A ..... Jaw Pins (2 required)
A-78-7 ..... Slide Bar
ESD-1051 .....Pressure Nut

Ⓟ SMALL GENERAL USE PULLER

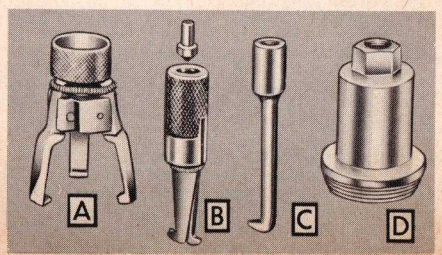
CG-30A Small Puller. Spring action closes and holds jaws in position while screw is tightened. Leverage works through the threaded crown and lever arms — the harder the pull — the tighter the grip. Jaws spread to 1⅝" and accommodate gears up to ¾" thick. Maximum distance from screw to jaw tips with jaws open is 1½". A good terminal puller.

Ⓡ BATTERY CABLE PULLER

CJ-92 Battery Cable Puller. Pressure between thumb and forefinger opens jaws. When released, self locking jaws hold themselves in place. A few turns of the screw will lift the tightest cable terminal without damage to either battery case or posts. Also useful for pulling small gears, bearings, etc.

SPECIAL PURPOSE PULLER HEADS

These special purpose puller heads have ¾"-16 threads and can all be used with the CJ-105-4 long screw shaft and CJ-97-3 slide hammer (page 123) or CG-270-8A long screw shaft and 66-2 slide hammer (page 119).



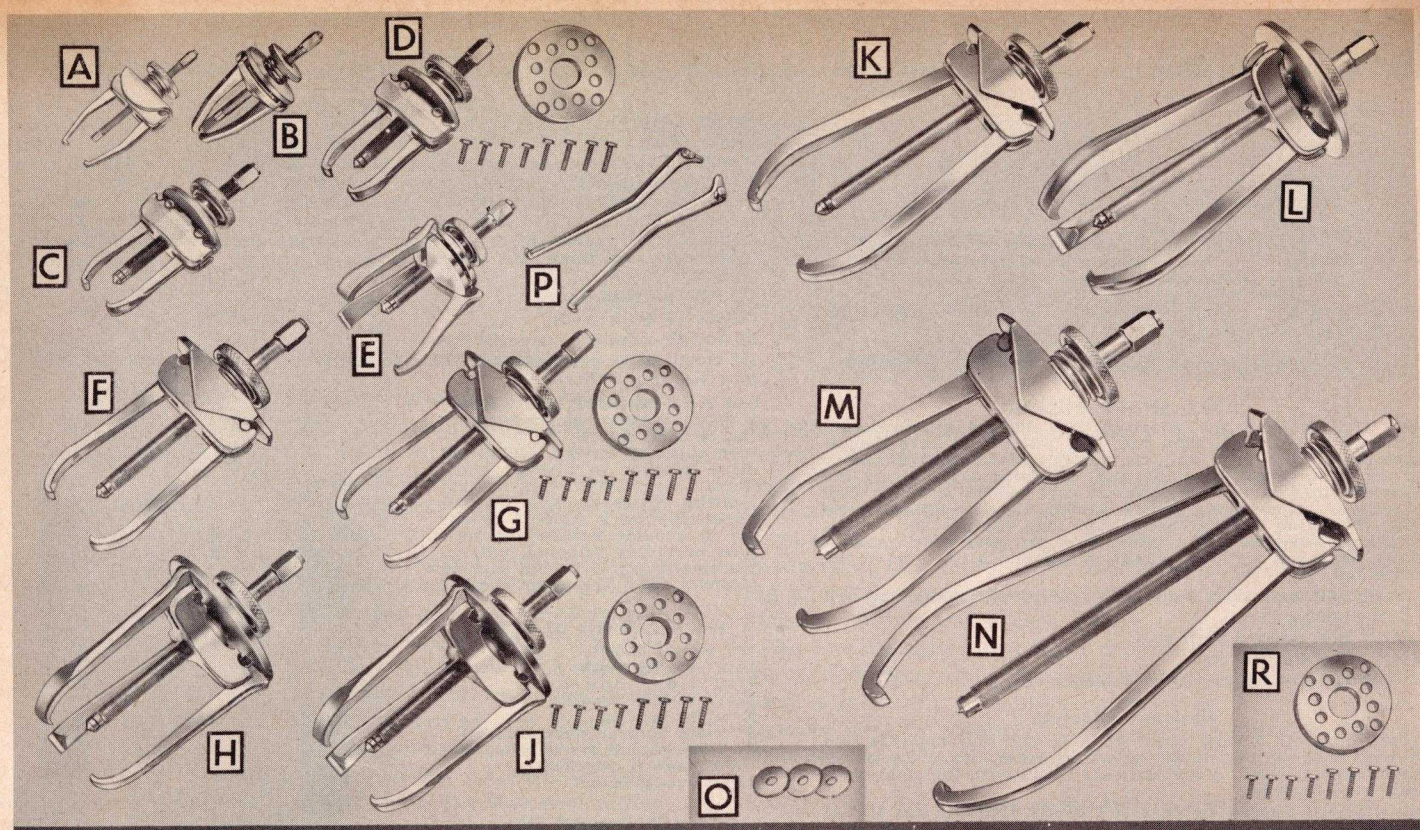
Ⓐ **CJ-66-22 Axle Puller and Chevy Bearing Race Puller Head.** Use with long screw shaft and slide hammer to pull all sizes of axles or to pull grease retainer and axle bearing in one operation on Chevy cars and trucks. Also pulls many other retainers and bearings that other pullers will not handle. Jaws are used as shown for axle pulling and in reverse position for bearings. Removeable threaded pins hold jaws in the housing.

Ⓑ **CJ-66-25 Grease Retainer Puller Head.** The thin, tapered jaws are pressed together, inserted through the grease retainer and expanded behind it.

Ⓒ **CJ-66-19 Bearing Hook Head.** Pulls pilot bearings too large for the A-78 Pilot Bearing Puller as well as grease retainers, bearing races, etc., on cars and trucks. 5⅞" long, hook width ⅜". (A-78 shown above.)

Ⓓ **Oil Seal Pullers.** Many oil or grease retainers cannot be pulled with internal expanding-jaw pullers, but are easily removed with one of these special oil seal pullers. The tapered thread is inserted into the seal until tight and, depending upon the presence or absence of a center shaft, either the pressure screw or slide shaft and hammer may be used to pull the seal. Each of the four sizes listed below has the same degree of taper and thread size, but they differ in diameter and the sizes of oil seals they fit.

CJ-66-26 Oil Seal Puller ....Taper diam., 1⅜" min., 1⅞" max. 1⅛" I.D.
CJ-66-16B Oil Seal Puller . Taper diam., 1½" min., 2 1/16" max. 1 9/32" I.D.
CJ-66-24A Oil Seal Puller ...Taper diam., 1¾" min., 2¼" max. 1½" I.D.
CJ-66-23A Oil Seal Puller Taper diam., 1 29/32" min., 2 7/16" max. 1 11/16" I.D.



Snap-on GEAR PULLERS MAKE THE JOB EASIER

LOCKING POWER PREVENTS SLIPPING—LEAVES HANDS FREE

SEVEN SIZES OVER ENTIRE POWER RANGE—2-JAW AND 3-JAW SCREW AND SLIDE HAMMER TYPES

SNAP-ON Gear Pullers are offered in seven sizes, with the dwarf, small and medium models available in either standard or slide hammer type or as a combination of both. Medium and intermediate sizes are available in two or three jaw models. Larger model pullers are made in 2-jaw pressure screw type only. The yoke and jaw construction locks the jaws onto the job . . . pulls small gears as easily as big ones . . . produces safe, uniform power over the entire pulling range . . . gives you slipless, tipless pulling. Yokes have 2 slots in each jaw to provide better gripping power on small jobs. Jaws reverse for either "inside" or "outside" holds and sturdy jaw tips provide ample strength. The centralized, guided shock of the slide hammer provides a powerful, equally distributed pulling force.

SCREW TYPE GEAR PULLERS

DWARF 2-JAW AND 3-JAW PULLERS

3" JAW SPREAD

3" maximum spread on outside holds. Jaw reach is 2½". For ½" diameter bearings use only one jaw locked in inside yoke slot. ⅜"-16 screw has hex head.

▲ (A) **CG-240 Dwarf 2-Jaw Screw Type Puller.**

▲ (B) **CG-243 Dwarf 3-Jaw Screw Type Puller.**

SMALL 2-JAW AND 3-JAW PULLERS

4½" JAW SPREAD

4½" maximum spread on outside holds. Jaw reach is 3". Operate through 1½" openings for inside holds. Power capacity 6 tons. ⅝"-18 pressure screw hex head fits ⅝" wrench, pointed screw tip centers on turned shafts.

▲ (C) **CG-250 Basic Small 2-Jaw Screw Type Puller.**

(D) **CG-250A Standard Small 2-Jaw Screw Type Puller** consisting of CG-250 and CG-1 Pulling Plate Attachment.

(E) **CG-253 Small 3-Jaw Screw Type Puller.**

MEDIUM 2-JAW AND 3-JAW PULLERS

8½" JAW SPREAD

8½" maximum jaw capacity on outside holds. Jaw reach is 5½". Operate through 2½" opening for inside pulls. 10 ton power capacity. With exception of yokes and locking plates, all parts of the 2-Jaw and 3-Jaw models are identical. ¾"-16 pressure screw has ¾" hex head and end tip.

MEDIUM 2-JAW PULLERS

▲ (F) **CG-270 Basic Medium 2-Jaw Screw Type Puller.**

(G) **CG-270A Standard Medium 2-Jaw Screw Type Puller** consisting of CG-270 and CG-1 Pulling Plate Attachment.

MEDIUM 3-JAW PULLERS

(H) **CG-273 Basic Medium 3-Jaw Screw Type Puller.**

(J) **CG-273A Standard Medium 3-Jaw Screw Type Puller** consisting of CG-273 and CG-1 Pulling Plate Attachment.

INTERMEDIATE 2-JAW AND 3-JAW PULLERS

10" JAW SPREAD

10" maximum jaw spread on outside holds with a reach of 8¼". When the 2-Jaw model is used for inside holds, jaws may be inserted through 3" hole. The ¾"-16 pressure screw is 11¾" long with a ¾" hex head. The CG-270-8 Slide Screw Bar, 66-2 Slide Hammer and the 10-F Cross Bar may be added to these pullers to convert them into slide-hammer type tools.

INTERMEDIATE 2-JAW PULLER

(K) **CG-280 Intermediate 2-Jaw Screw Type Puller.**

INTERMEDIATE 3-JAW PULLER

(L) **CG-283 Intermediate 3-Jaw Screw Type Puller.**

LARGE 2-JAW PULLER

12" JAW SPREAD

12" maximum jaw spread with 9½" reach on outside hold. On inside pulls the jaws operate through a 3½" opening. Its 20 ton power capacity makes this puller the favorite for those big, tough jobs. The most stubborn gears and pulleys are loosened without damage to any of the units. Pressure screw has 1" hex head for turning with standard wrench. Thread is 1"-14.

▲ (M) **CG-300 Large 2-Jaw Screw Type Puller.**

EXTRA LARGE 2-JAW PULLER

15" JAW SPREAD

14" maximum jaw spread with over 14" reach on a standard 4" face gear — or 16" jaw capacity on a 3½" face gear. Maximum jaw reach is 14⅜". Over 20 tons of pulling power. Industrial maintenance men like these SNAP-ON Pullers because they are easily hooked up to the job and because they work quickly, surely and safely. Pressure screw has 1" hex head so it may be turned with standard wrench. Thread is 1"-14.

(N) **CG-305 Extra Large 2-Jaw Screw Type Puller.**

(O) SCREW POINT PROTECTORS

These Protectors fit over the tapered point of the puller pressure screw and prevent it from being damaged when puller is used on a shaft without a center hole. Three sizes for different diameter pressure screws are available.

CG-10 Set of 3 Protectors.
CG-6 9/16" diameter Protector.
CG-7 ¾" diameter Protector.
CG-8 1⅛" diameter Protector.

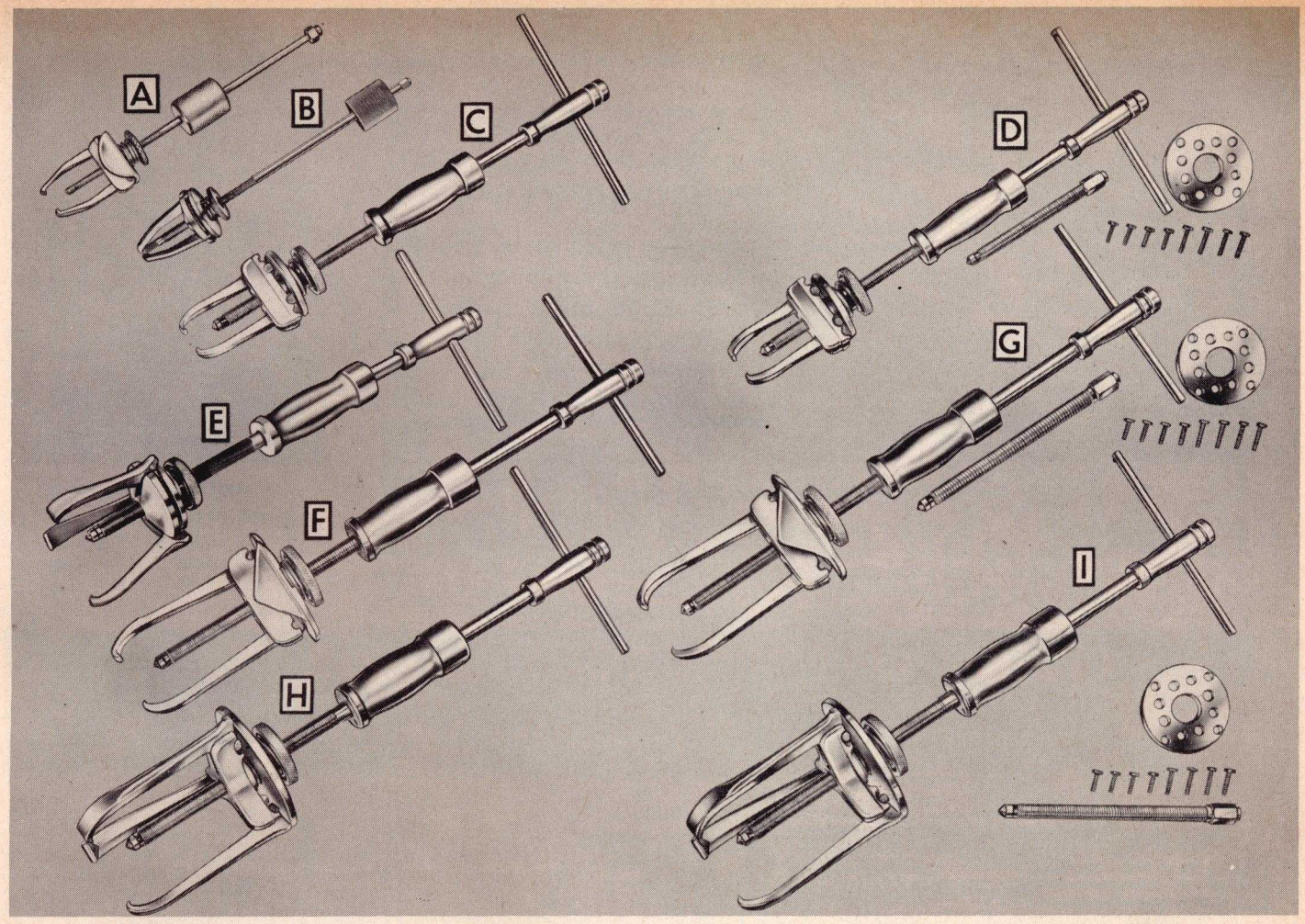
(P) LONG JAWS FOR INSIDE PULLING

CG-250-10 Long Jaw. Interchangeable on the CG-250, CG-270 and CG-273 Series Pullers for inside pulling of bearings, bushings, etc. They "lock on" for inside holds up to 8" in diameter and will reach into a ¾" opening to a depth of 3" before binding. Also useful for light work on outside holds. These jaws are 7½" long.

(R) PULLING PLATE ATTACHMENT

CG-1 Pulling Plate Attachment. Complete with four each ¼"-20 and ¼"-28 bolts. Bolts are inserted through plate into tapped gear holes, etc., and puller jaws clamp behind the plate.

▲ Federal Specs: GGG-P-00781B applies to all items on this page indicated by symbol ▲



SLIDE-HAMMER PULLERS GIVE IMPACT TO LOOSEN TIGHTEST GEARS OR PULLEYS

DWARF 2-JAW and 3-JAW SLIDE-HAMMER PULLERS
3" JAW SPREAD

3" maximum spread on outside holds. Jaw reach is 2½". For ½" diameter bearings use only one jaw locked in inside yoke slot. Works through ⅞" opening for inside pulls. The screw has a ⅜"-16 thread.

Ⓐ **CG-240H Dwarf 2-Jaw Slide Hammer Type Puller.**

Ⓑ **CG-243H Dwarf 3-Jaw Slide-Hammer Type Puller.**

SMALL 2-JAW and 3-JAW SLIDE-HAMMER PULLERS
4½" JAW SPREAD

4½" maximum spread on outside holds. Maximum jaw reach is 3". Operate through 1½" openings for inside holds. Power capacity 6 tons. The screw has a ⅝"-18 thread.

Ⓒ **CG-250H Basic Small 2-Jaw Slide-Hammer Type Puller.**

CG-250HL Puller. Similar to CG-250H but with longer CG-250-10 jaws.

Ⓓ **CG-250C Combination Small 2-Jaw Slide-Hammer and Screw Type Puller** consisting of CG-250H, CG-1 Pulling Plate Attachment and CG-250-1 hex headed pressure screw.

Ⓔ **CG-253H Small 3-Jaw Slide-Hammer Type Puller.**

MEDIUM 2-JAW and 3-JAW SLIDE-HAMMER PULLERS
8½" JAW SPREAD

8½" maximum jaw capacity on outside holds. Maximum jaw reach is 5½". Operate through 2½" opening for inside pulls. 10 ton power capacity. With exception of yokes and locking plates, all parts of the 2-Jaw and 3-Jaw model are identical. You can adapt a 2-Jaw model to a 3-Jaw by adding the CG-273-2 yoke, CG-273-5 locking plate and one extra CG-270-3 jaw. The pressure screws have 3/16" thread.

Ⓕ **CG-270-H Basic Medium 2-Jaw Slide-Hammer Type Puller.**

Ⓖ **CG-270C Combination Medium 2-Jaw Slide-Hammer and Screw Type Puller** consisting of CG-270H, CG-1 Pulling Plate Attachment and CG-270-1 hex headed pressure screw.

Ⓗ **CG-273H Basic Medium 3-Jaw Slide-Hammer Type Puller.**

Ⓘ **CG-273C Combination Medium 3-Jaw Slide-Hammer Screw Type Puller** consisting of CG-270H, CG-1 Pulling Plate Attachment and CG-270-1 hex headed pressure screw.

Puller Series Specifications

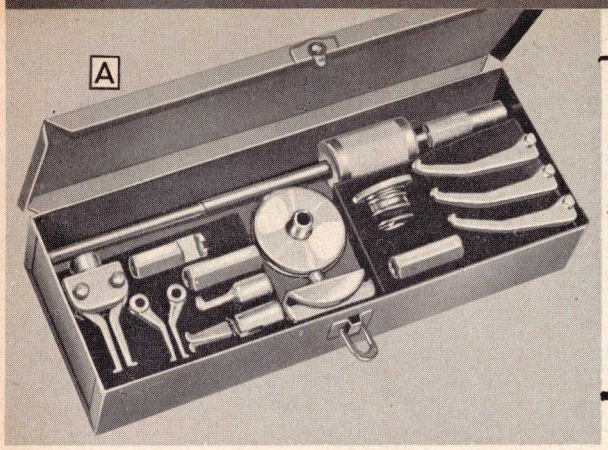
CG Model Series		Max. Jaw Cap.	Max. Jaw Reach	Works Thru Minimum Opening of	Approx. Cap. in Tons	Pressure Screw Hex
Dwarf	CG-240, CG-243	3"	2½"	⅞" diam.	3½	⅜"
Small	CG-250, CG-253	4½"	3"	1½" diam.	6	⅝"
Medium	CG-270, CG-273	8½"	5½"	2½" diam.	10	¾"
Intermediate	CG-280, CG-283	10"	8¼"	3" diam.	10	¾"
Large	CG-300	12"	9½"	3½" diam.	20	1"
Extra Large	CG-305	15"	14⅜"	5" diam.	20	1"

Stock Numbers of Individual Parts of Pullers

Description	PULLER SERIES					
	Dwarf	Small	Medium	Intermediate	Large	Extra Large
Hexhead Screw	CG-240-1	CG-250-1A	CG-270-1A	CG-270-11A	CG-300-1	CG-305-8
Yoke (2 Jaw)	CG-240-2	CG-250-2	CG-270-2	CG-270-2	CG-300-2	CG-300-2
Yoke (3 Jaw)	CG-243-2	CG-253-2	CG-273-2	CG-273-2	.....	.....
Jaw	CG-240-3	CG-250-3	CG-270-3	CG-270-10	CG-300-3	CG-305-9
Lock Plate (2 Jaw)	CG-240-5	CG-250-5	CG-270-5	CG-270-5	CG-300-5	CG-300-5
Lock Plate (3 Jaw)	CG-243-5	CG-250-5	CG-273-5	CG-273-5	.....	.....
Spring	CG-240-6	CG-250-6	CG-270-6	CG-270-6	CG-300-6	CG-300-6
Adj. Nut	CG-240-7	CG-250-7	CG-270-7	CG-270-7	CG-300-7	CG-300-7
Long Screw Shaft	CG-240-8	CG-250-8A	CG-270-8A	.....	.....	.....
Slide Hammer	CG-240-9	CG-250-9	66-2	.....	.....	.....
Cross Bar	.....	10-F	10-F	.....	.....	.....
Pulling Plate	.....	CG-1	CG-1	.....	.....	.....

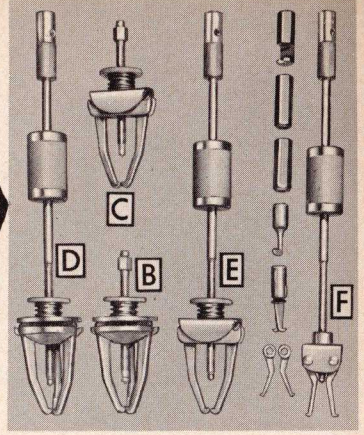
Medium Series Pullers may be converted into the intermediate Series simply by adding two or three CG-270-10 Jaws and the CG-270-11 Hexhead Screw.

CG-2400-B LIGHT-DUTY UNIVERSAL PULLER SET



LETS YOU ASSEMBLE ANY OF THE FIVE BASIC SMALL PULLERS SHOWN AT RIGHT

Removes small seats, sleeves, bearings, grease retainers, bronze or oilite bushings, bearing races and bushings as small as 3/8" I.D., and remove sheet metal dents



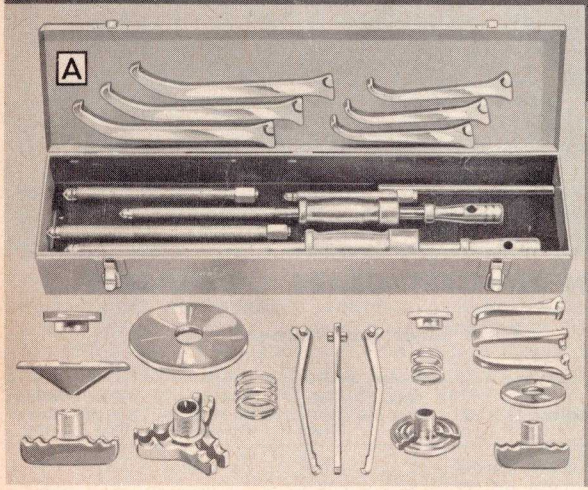
Ⓐ The CG-2400-B Set Contains These Units

CG-243	3-Jaw Puller	**CJ-93-3-1**	Jaw Holder	**CJ-93-5**	Bearing Hook
CG-240-2	2-Way Yoke	**A-78-3**	Large Jaw (2)	**CJ-93-6**	Metal Dent Remover
CG-240-5	2-Way Lock Plate	**A-78-6A**	Jaw Pin (2)	**CJ-93-7**	5/16"-24 Stud Adap.
CJ-93-1	Slide Screw	**A-78-4**	Small Jaw (2)	**CJ-93-8**	3/8"-24 Stud Adap.
CJ-93-2	Slide Hammer	**CJ-93-4**	Grease Ret. Ad.	**KRA-104**	Metal Case

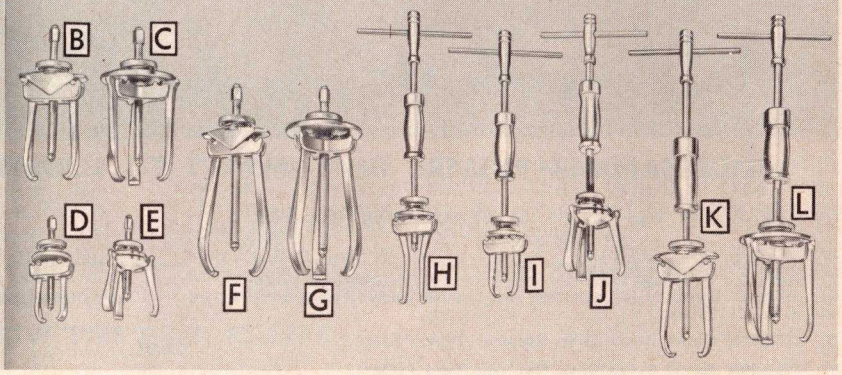
Set Makes These Pullers

- Ⓑ **CG-243** .... See page 118
- Ⓒ **CG-240** .... See page 118
- Ⓓ **CG-243H** ... See page 119
- Ⓔ **CG-240H** ... See page 119
- Ⓕ **CJ-93** ..... See page 116

CG-2500B MEDIUM-DUTY UNIVERSAL PULLER SET



THE PARTS SHOWN AT THE LEFT WILL MAKE UP ANY OF THE PULLERS SHOWN BELOW



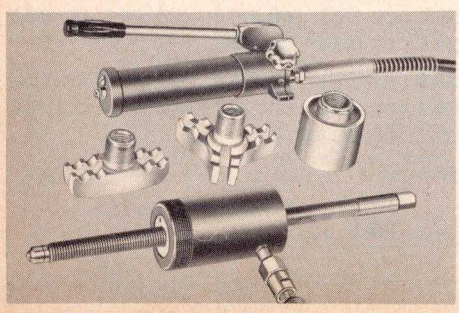
Ⓐ **CG-2500-B Puller Set.** Provides up to 10 tons of mechanical pulling power and covers a wide range from 3/4" spread on inside pulls to 10" spread on outside pulls. Jaws are reversible with spring loaded grip for working convenience. KRA-109 Box is 25½" x 6" x 4½" high.

CG-2500-B Set Contains These Units . . . . . Lets you Assemble Any of These Eleven Pullers

Number	Description	Number	Description
CG-273	3-Jaw Puller	**10F**	Cross Bar
CG-270-2	2-Way Yoke	**CG-253**	3-Jaw Puller
CG-270-5	2-Way Lock Plate	**CG-250-2**	2-Way Yoke
CG-270-11A	Hexhead Screw	**CG-250-8A**	Slide Screw
CG-270-10	Long Jaw (3)	**CG-250-9**	Slide Hammer
CG-270-8A	Slide Screw	**CG-250-10**	Long Thin Jaws (3)
66-2	Slide Hammer	**KRA-109**	Metal Box

Puller No.	Spread (Outside)	Spread (Inside)	Max. Reach	Capacity	Screw Size	See Page
Ⓑ **CG-270**	0–8½"	2½"–7"	5⅜"	10 tons	¾"–16	118
Ⓒ **CG-273**	0–8½"	2½"–7"	5⅜"	10 tons	¾"–16	118
Ⓓ **CG-250**	0–4½"	1½"–3½"	3"	6 tons	⅝"–18	118
Ⓔ **CG-253**	0–4½"	1½"–3½"	3"	6 tons	⅝"–18	118
Ⓕ **CG-280**	0–10"	3"–8"	8"	10 tons	¾"–16	118
Ⓖ **CG-283**	0–10"	3"–8"	8"	10 tons	¾"–16	118
Ⓗ **CG-250HL**	0–5½"	¾"–8"	6"	3 tons	⅝"–18	119
Ⓘ **CG-250H**	0–4½"	1½"–3½"	3"	6 tons	⅝"–18	119
Ⓙ **CG-253H**	0–4½"	1½"–3½"	3"	6 tons	⅝"–18	119
Ⓚ **CG-270H**	0–8½"	2½"–7"	5⅜"	10 tons	¾"–16	119
Ⓛ **CG-273H**	0–8½"	2½"–7"	5⅜"	10 tons	¾"–16	119

HYDRAULIC TEN TON POWER KIT FOR CG-2500-B SET

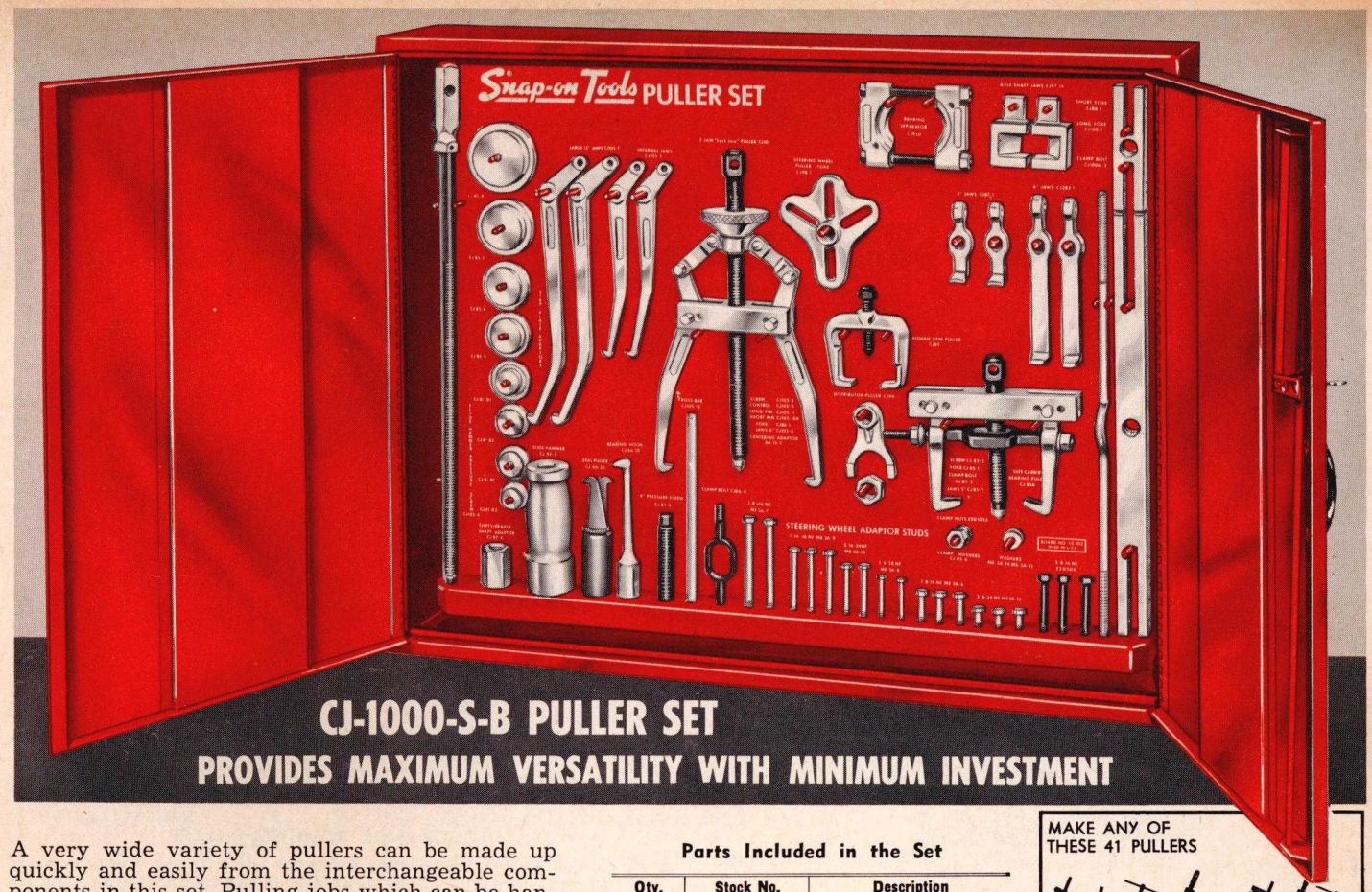


CG-1224 Power Kit. Consists of the CG-122 ten-ton ram and pump assembly, CG-270-16 Adaptor, CG-270-15 2-Way Yoke and CG-273-15 3-Way Yoke.

CG-122 Hydraulic Ram and Pump Set consists of CG-120 Ram, BJ-4-2A Pump, BJ-4-3B Hose and BJ-4-4 Coupler Set. The CG-120 Ram is a spring-loaded ram which automatically retracts the workhead when pressure is released. Ram is 4¾" long with a 2⅝" diameter. It accommodates a 16¼" long pressure screw which has a ⅝" diameter hex, a ¾" diameter shaft, coarse threads for fast positioning, and a free moving center tip to provide shaft end protection.

The BJ-4-2A Pump has an automatic cutout when 10 tons of pressure are applied. This saves the puller from damage caused by overloading. The BJ-4-3B hose is 6 feet long, has a ¼" inside diameter, and has spring guards on both ends. The BJ-4-4 Coupler permits removal of the hose without loss of fluid from the ram.

Note: CG-420-5A Pressure Gauge may be attached to the BJ-4-2A Pump by use of a CG-120-15 Adaptor. Gauge shows on a 3½" dial the amount of pressure applied.



CJ-1000-S-B PULLER SET

PROVIDES MAXIMUM VERSATILITY WITH MINIMUM INVESTMENT

A very wide variety of pullers can be made up quickly and easily from the interchangeable components in this set. Pulling jobs which can be handled include: timing gears, various pulleys, brake drums, flanged and tapered axle shafts, pitman arms, steering wheels, grease retainers, carrier side bearings, distributors, bearings and bearing races, gears of all types, etc. Both pressure screw and slide hammer power are provided.

The convenient tool display board provides wall storage convenience and accessibility. There's a place for each part with white outlines and identification on a bright red background. You know at a glance if a part is missing. The heavy duty board is ¾" thick and measures 24" high, by 32" wide, and has a 2" wide base.

Protection is provided by this specially designed metal cabinet. Its two large doors swing open freely on full length hinges giving clear access to the tools. A tumbler lock secures both doors. Red enamel finish and chrome door handles. The dimensions are: 32¾" long, 24¾" high, and 6" deep.

CJ-1000-S-B. Complete Set. All parts listed plus the VE-102 Wall Board and KRA-270 Cabinet.

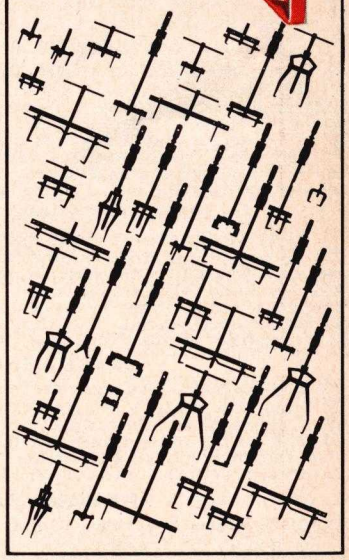
CJ-1000-S Set. Consisting of all parts listed plus the VE-102A Wall Board.

CJ-1000 Set. All puller parts listed but without Wall Board and Cabinet.

Parts Included in the Set

Qty.	Stock No.	Description
1	66-15-3	Centering Adaptor
1	CJ-66-19	Bearing Hook
1	CJ-66-25	Grease Retainer Puller
1	CJ-81B-1	1½" - 1.120 Adaptor
1	CJ-81B-2	1 1/16" - 1.245 Adaptor
1	CJ-81D-1	Corvair Adaptor
1	CJ-81D-2	Falcon Adaptor
1	CJ-85A	Side Bearing Puller
2	CJ-85-4	Clamp Washer
2	CJ-86-1	Puller Yoke
1	CJ-86-4	Clamp Bolt
2	CJ-87-1	3" Jaw
1	CJ-78	Pitman Arm Puller
1	CJ-97-1L	Left Flange, Jaw
1	CJ-97-1R	Right Flange, Jaw
1	CJ-97-3	Slide Hammer
1	CJ-97-4	Chrysler Axle Adaptor
1	CJ-98A	Universal Puller Set
1	CJ-99	Distributor Puller Head
1	CJ-100-1	Puller Yoke
1	CJ-100A-2	Clamp Bolt
1	CJ-105A-9	2-Way Control
1	CJ-105-3	Puller Screw
1	CJ-105-4	Slide Hammer Shaft
2	CJ-105-5	6¼" Internal Jaw
2	CJ-105-6	6¼" External Jaw
2	CJ-105-7	9" Jaw
2	CJ-105-10A	Short Connecting Pin
2	CJ-105-11	Long Connecting Pin
1	CJ-105-12	Handle Bar
2	CJ-282-1	6" Jaw
1	CJ-950	Bearing Separator
2	ESD-1053	Clamp Nut

MAKE ANY OF THESE 41 PULLERS

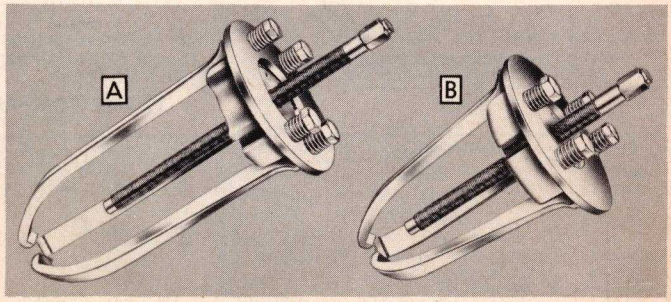


HEAVY DUTY MANUALLY OPERATED GEAR PULLERS

These two pullers are manually operated variations of the CG-400HYA and CG-405HYA Pullers listed on page 112. Instead of using the hydraulic pump and ram, they are fitted with a special plug and screw. Owners of either of the hydraulic pullers can convert to manual operation simply by buying the CG-343-1 4" plug and the CG-300-1 screw or the CG-305-8 screw. The combination yoke can be used for 2-jaw or 3-jaw operation and the three jaws may be spaced in regular or in special spacing for use on 5-spoked gears and wheels. The locking plate holds the jaws tightly onto the job and locking tenson is provided through four springs on adjustable studs.

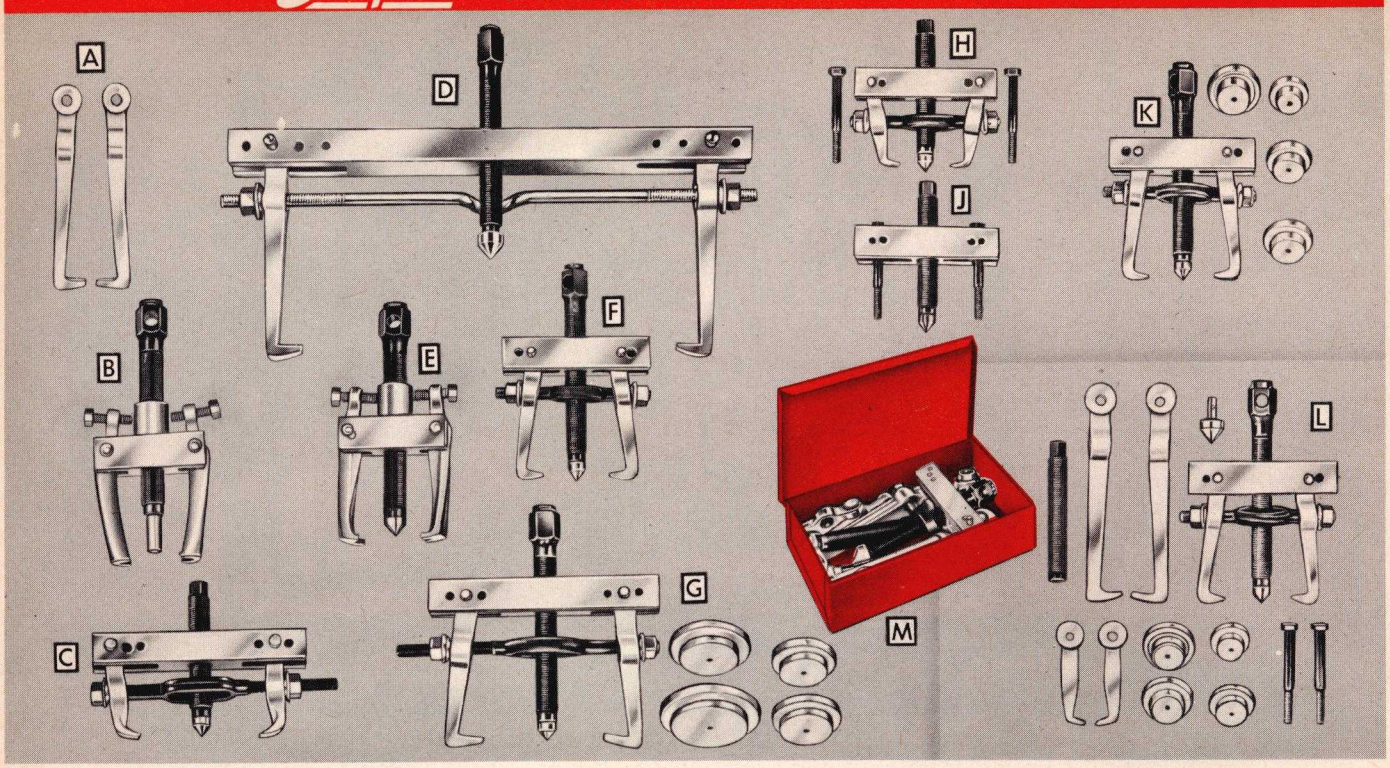
Ⓐ **CG-348 Puller.** Has a jaw reach of 14" and a 15" spread. It consists of the following parts:

CG-400-2 Comb. Yoke
CG-305-9 Jaw (3 incl.)
CG-400-5 Locking Plate
CG-343-1 4" Plug
CG-305-8 Pressure Screw
CG-400-6 Spring (4 incl.)
CG-400-7 Stud (4 incl.)



Ⓑ **CG-343 Puller.** Has a jaw reach of 9½" and a 13" spread. It consists of the same parts as above except it has three CG-300-3 jaws instead of the three CG-305-9 jaws and the CG-300-1 Pressure Screw instead of the CG-305-8 Screw.

Snap-on® INTERCHANGEABLE PULLER SETS



OPTIONAL PULLER JAWS

Ⓐ **CJ-282-1 Large Puller Jaw.** (2 required.) May be used with the pullers listed on this page.

ALTERNATOR PULLEY PULLER

Ⓑ **CJ-79 Alternator Pulley Puller.** Designed especially to simplify the job of removing the pulleys from the alternators on Chrysler and Ford products. The pulley is pressed on and it has a puller ring built into it. The special jaws on the CJ-79 Puller are wide and contoured to fit exactly on the pulley ring and exert an even pulling pressure on both sides of the pulley. This puller has side jaw screws to center the puller and lock the jaws on the pulley. A flat centering adaptor protects the end of the shaft.

AIR CONDITIONER PULLEY PULLER

Ⓒ **CJ-80 Air Conditioner Pulley Puller.** Needed to remove automotive air conditioner drive pulleys. In addition, it can also be used to remove alternator pulleys, generator pulleys, lower crankshaft pulleys, harmonic balancers, power steering units, and fiber timing gears. The yoke offers three jaw positions to accommodate the various diameters encountered. The compactness, wide span, short reach, and versatility of this puller make it an excellent, multi-purpose tool.

BRAKE DRUM PULLER

Ⓓ **CJ-100A Brake Drum Puller** for removing "frozen" rear brake drums from late model Fords and GM products that have flange type axles. Removal of drum is accomplished by locking the jaws of the CJ-100A on the outer rim of the drum, centering pressure screw on axle and then applying pressure. Clamp bolt locks jaws on drum. Yoke holes permit jaws to cover drums in the 9" to 16" range.

PITMAN ARM PULLER

Ⓔ **CJ-78 Pitman Arm Puller.** This is a ruggedly built puller designed to handle the toughest Pitman Arm pulling job. It is adjustable to fit the arm on any of today's cars and has special jaws shaped expressly for the job. The 6¼" long screw has a removable center point and can be turned with a wrench or a bar. The puller is centered on the job and the jaws locked onto the Pitman arm by means of two jaw screws.

PITMAN ARM PULLER

Ⓕ **CJ-82B Pitman Arm Puller.** A fast action Pitman Arm Puller that can be used for a wide variety of other jobs. Clamp bolt locks the puller on the Pitman arm leaving hands free for the pulling job.

TRUCK SIDE BEARING PULLER

Ⓖ **CJ-85A Carrier Side Bearing Puller for Large Trucks.** Pulls bearings without damaging them. Jaws are locked behind the bearing by means of the clamp bolt and pull from the inner race. Four adaptors are furnished to handle all sizes of these bearings.

TIMING GEAR PULLERS

Ⓗ **CJ-87 Universal Timing Gear Puller.** Has special jaws and jaw clamp to handle the Chevrolet cars and GMC trucks fiber timing gear. Jaws are inserted through the gear holes and pull against the steel insert. Two ⅜"-16 studs handle a majority of tapped timing gears . . . also fit the taped holes in our CJ-950 Bearing Separator. Screw is only 4¼" long, works in close quarters.

Ⓙ **CJ-83B Timing Gear Puller.** The 4¼" long screw on this puller makes it good for close quarter work. One set of ⅜"-16 studs furnished handles the majority of tapped timing gears . . . also fits tapped holes in our CJ-950 Bearing Separator.

CARRIER SIDE BEARING PULLER

Ⓚ **CJ-81D Side Bearing Puller.** Removes carrier side bearings without injuring them. The narrow jaws slip into the housing grooves in back of the bearing and let the jaws seat and pull from the inner race. The jaws are locked on the bearing by means of the clamp bolt. Yoke has two sets of holes for positioning of jaws. Four bearing adaptors fit a wide range including Corvair and Falcon.

INTERCHANGEABLE SET MAKES PULLERS Ⓕ Ⓗ Ⓙ Ⓚ

Saves over 50% of the cost

Select the parts and assemble either of the four pullers listed above . . . at less than half the cost of the four complete tools and, in addition, you get two 6" long jaws. This lets you handle Pitman Arms, Timing Gears, including Chevy cam and GMC truck fiber gears, Carrier Side Bearings etc. Buy the CJ-100-1 Yoke and CJ-100A-2 Clamp Bolt also and you can assemble the CJ-100A Brake Drum Puller.

Ⓛ **CJ-282B Interchangeable Puller Set.** Tools only.

Ⓜ **CJ-282B-B Interchangeable Puller Set.** In KRA-40 Metal Box. Box has red enamel finish, 9" long, 5½" wide and 2" deep.

PARTS COMPRISING ABOVE PULLERS

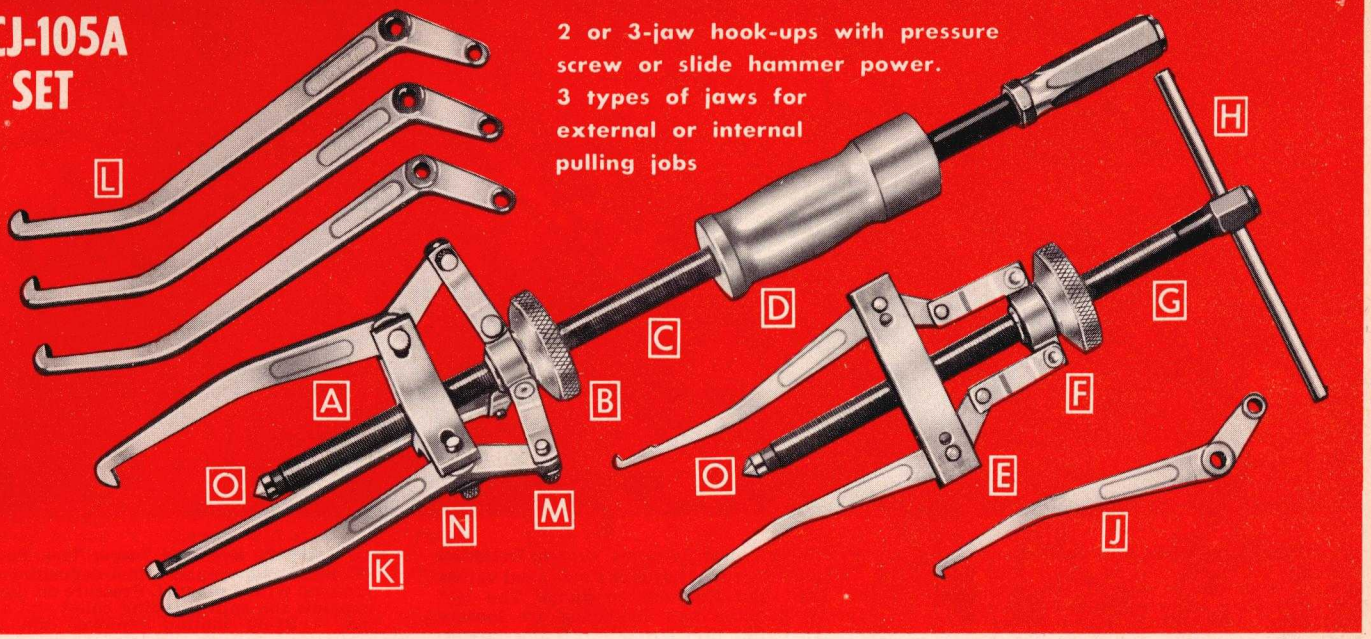
Part No.	Description	B	C	D	E	F	G	H	J	K	L
66-15-3	Center Adaptor	...	1	...	1	1	1	1	1	1	1
CJ-78-1A	Yoke	1	...	...	1	...	...	...	...	...	...
CJ-78-2A	Jaw (Pitman Arm)	...	...	...	2	...	...	...	...	...	...
CJ-79-1A	Jaw (Alternator)	2	...	...	...	...	...	...	...	...	...
CJ-81-2	Jaw (4½")	...	...	...	...	2	...	...	...	2	2
CJ-83-2	Screw (6¼")	1	...	1	1	1	1	...	...	1	1
CJ-83-3	Screw (4½")	...	1	...	...	...	...	1	1	...	1
CJ-84-16	Center Adaptor	...	...	1	...	...	...	...	...	...	1
CJ-85-1	Yoke	...	1	...	...	...	1	...	...	...	...
CJ-85-2	Jaw (5")	...	...	...	...	...	2	...	...	...	...
CJ-85-3	Clamp Bolt	...	1	...	...	...	1	...	...	...	...
CJ-85-4	Clamp Washer	...	2	2	...	2	2	2	...	2	2
CJ-86-1	Yoke	...	...	...	...	1	...	1	1	1	1
CJ-86-4	Clamp Bolt	...	...	...	...	1	...	1	...	1	1
CJ-87-1	Jaw (3")	...	2	...	...	...	...	2	...	...	2
CJ-96-3	Adaptor	1	...	...	...	...	...	...	...	...	...

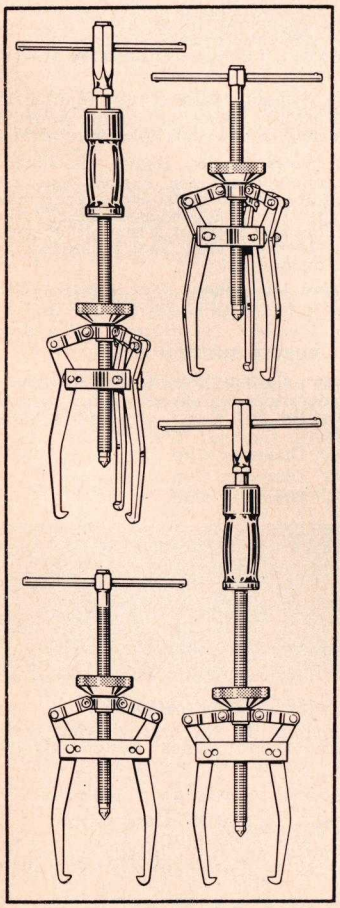
Part No	Description	B	C	D	E	F	G	H	J	K	L
CJ-100-1	Yoke	...	...	1	...	...	...	...	...	...	...
CJ-100A-2	Clamp Bolt	...	...	1	...	...	...	...	...	...	...
CJ-105-11	Jaw Pin	2	2	2	2	2	2	2	...	2	2
CJ-282-1	Long Jaw (6")	...	...	2	...	...	...	...	...	...	2
ESD-504	Small Stud	...	...	...	...	...	...	2	2	...	2
ESD-1053	Clamp Nut	...	2	2	...	2	2	2	...	2	2
ME-3A-21	Jaw Screw	2	...	...	2	...	...	...	...	...	...
	Adaptors										
CJ-81B1	1½"-1.120"	...	...	...	...	...	...	...	...	1	1
CJ-81B2	1⅝"-1.245"	...	...	...	...	...	...	...	...	1	1
CJ-81D1	Corvair Adaptor	...	...	...	...	...	...	...	...	1	1
CJ-81D2	Falcon Adaptor	...	...	...	...	...	...	...	...	1	1
CJ-85-5	2"-1.500"	...	...	...	...	...	1	...	...	...	...
CJ-85-6	2⅛"-1.650"	...	...	...	...	...	1	...	...	...	...
CJ-85-7	2½"-1.840"	...	...	...	...	...	1	...	...	...	...
CJ-85-8	3 1/16"-2⅜"	...	...	...	...	...	1	...	...	...	...

Snap-on® INTERCHANGEABLE "LOCK-JAW" PULLER SET

TWELVE PULLERS IN ONE . . . CONTROLLED "LOCK-JAW" ACTION

CJ-105A SET





ABOVE: The four basic hook-ups using medium size external-type jaws. Similar combinations may be made using the large jaws and the small internal-type jaws. The medium and large jaws may also be used in reverse position for inside application.

This puller is designed and built to give you the most versatile set that you can possibly own and the most pulling power and adaptability for your money. With this complete set you can handle the tough jobs, the tight jobs, the small internal jobs and the widespread or long reach jobs. You are set to handle any type of pulling whether it takes a two-jaw or a three-jaw application and do the pulling either by pressure screw or slide hammer power. Screws have standard N.F. threads . . . coarser threads would give less power. Wherever there are gears, retainers, bearings, bearing races, bushings, etc., to be pulled this set gives you the puller tool for the job.

Lock-Jaw Controls

Big features of this puller set are the positive jaw locking controls. The jaws can be pinned into either the inner or outer pin location in the yoke and then moved into any gripping position and tightened onto the job by turning the knurled nut on the control assembly. The control arms hold the jaws tightly in place with no possibility of changing position unless the nut is turned. You lock the puller onto the job and leave both hands free for the actual pulling. Note: The control arms take little or no strain from the pulling operation . . . they merely lock the jaws.

Other Important Features

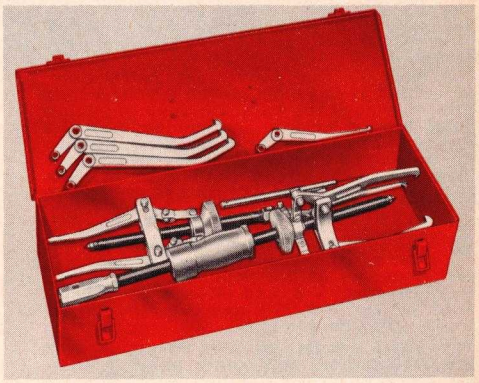
3 Sets of Jaws. 3 of each size to fit any job and each is reversible for inside or outside pulling. Jaws are forged from steel of similar alloy as used for our impact sockets. Jaws, yokes and pressure screws are heat treated to give the maximum strength to threads, jaw tips, etc., that take the brunt of the applied pressure or impact of slide hammer blows. Using the Small Internal Jaws the pullers have an approximate rating of 3 tons. With the medium and large external jaws a rating of approximately 7 tons.

Yokes. Separate yokes for 2 and 3-way hook-ups give you the maximum utility in your set.

Connecting Pins. Two types are used. Short pins for the control arms and long pins for the yoke. All have knurled heads for easy handling and friction balls for easy interchange of parts.

Short Screw. Services jobs in close places where the slide hammer cannot be used. Can be tightened with either the handle bar or a 7/8" wrench.

Long Screw and Slide Hammer. Used together to give a sudden powerful blow, guided by the shaft in the direction of the pull. Such a blow combined with center tension distributes the force equally on all sides of the pull and prevents binding of the unit being pulled. It is a most effective method. Screw can be tightened with the handle bar or a 1" wrench.



CJ-105A Combination 2 and 3-Way Puller Set. Contains all parts shown above and listed below.

CJ-105A-B Puller Set. Above set in KRA-112 metal box as shown above. Box is 26½" long, 8" wide and 5½" deep. It has a full length hinge, two clasp fasteners — one may be padlocked, and metal carrying handle. Red enamel finish.

Jaw Reach and Spread—Screw Thread

Small Jaws: Spread: 1¼" to 3¼" using screw
Spread: ½" to 3¼" using hammer
Reach: 6¼" maximum

Medium Jaws: Spread: 2¼" to 6". Reach 6¼" max.

Large Jaws: Spread: 2¼" to 12". Reach 9" max.

Thread Size of screws and Yokes is ¾"-16.

Contents of CJ-105A Puller Set

Stock No.	Description	Qty.
A CJ-105-1	3-Way Yoke	1
B CJ-105A-8	3-Way Jaw Control	1
C CJ-105-4	Long Slide Screw	1
D CJ-97-3	Slide Hammer	1
E CJ-86-1	2-Way Yoke	1
F CJ-105A-9	2-Way Jaw Control	1
G CJ-105-3	Short Pressure Screw	1
H CJ-105-12	Handle Bar	1
J CJ-105-5	Small Internal Jaw	3
K CJ-105-6	Medium External Jaw	3
L CJ-105-7	Large External Jaw	3
M CJ-105-10A	Short Jaw-to-Control Pin	5
N CJ-105-11	Long Jaw-to-Yoke Pin	5
O 66-15-3	Centering Adaptor	2

SERVICE TOOLS MISCELLANEOUS VALVE



Ⓐ **CF-49A Valve Lifter.** Short and compact — only 9¼" long, this tool gets into tight spots and works on most "L" head engines having straight stemmed valves. It does jobs that have other lifters licked before they start. Top jaws are adjustable for various spring sizes. Lifting capacity of the tool is 2⅜". Jaws remain parallel at all times and lift the spring without binding or slipping to a height which allows plenty of room for access to the valve stem keys.

The jaws of this convenient valve lifter lock open at any point leaving your hands free to remove the keys. On engines having valve spring guides, the guides must be turned to clear the jaws of the lifter. Springs up to 300 pounds of coil strength, much greater than the strength of springs in common use can be lifted with this sturdy tool.

Ⓑ **V-22 Overhead Valve Adjusting Tool.** Handles all the adjusting work done by earlier models of this popular tool and also services Ford V-8 and Mercury; Lincoln, Ford "6" and F-7, F-8, and cab-over-engine trucks and Chevrolet "6".

The offset handle provides clearance over the hot manifold and makes tappet adjusting work on these engines fast, safe, and easy. Attach the right size socket to the square drive and, with the engine idling, place the socket onto the lock nut. Loosen or tighten the nut by means of the offset handle — push the knob handle down to engage the screw driver blade in the tappet screw slot for adjustment. The tool is designed to hold our ½" square drive sockets. Overall length of tool is 7½".

Ⓒ **CF-7B Valve Key Replacer.** The narrowest, most compact tool ever perfected for replacing all split type valve keys easily and quickly. It requires a very minimum of work space. The sliding base absolutely prevents the keys from dropping into the motor while being replaced . . . Easy to load . . . Easy to use — you'll do the job much faster.

Ⓓ **S-9603 Valve Spring Compressor Tool.** For removing and replacing valve springs and valve oil seals on V-8 engines without removing cylinder heads. It can be used on Chevrolets, some models of Pontiacs, Ford Fairlane 500, Ford Galaxy, late model Chevrolet 6 cylinder engines and some GMC trucks.

The tool is used in conjunction with one of our pressure adaptors, MT-26-13A, MT-26-14A, or MT-26-15, page 142. Remove the rocker arm, place the circular hole of the tool over the rocker arm stud and screw the nut onto the stud. Insert the proper pressure adaptor into the spark plug hole and inject air to hold the overhead valves up in position. Turn the nut to tighten the S-9603 tool against the valve spring washer. With a slight tap of a hammer the valve retainers can be freed and removed. Oil seals may then be replaced. Replace the spring, tighten the tool, replace the valve retainers and remove the tool. The adjusting screw is used when working on some engines but not on others.

Ⓔ **S-8693 Tappet Adjusting Wrench.** Designed specifically for adjusting overhead valves on Ford and Chrysler products. The 7/16" and ½" double hex flexheads are loosely fitted so that they "ride" with the tappet. Extra thick socket walls are specially heat treated to resist wear from the hardened, self locking adjusting screws. The 8" handle provides ample leverage and keeps hands clear of hot manifolds.

Ⓕ **Valve Guide Brushes.** These are extremely well made brushes of spiral design. Highest quality wire is securely woven into the twisted wire shank. Fluted wood handle provides a firm grip for your hand.

No.	Size
AC-10	5/16"
AC-11	11/32"
AC-12	3/8"
AC-14	7/16"

Ⓖ **RV-1020 Expansion Valve Guide Cleaner.** A spiral wire type tool with expansion range sufficient to cover all sizes of valve guide holes: 5/16", 11/32", 3/8", 7/16", ½", 9/16" and 5/8". May also be used to clean and remove dirt or rust and burnish any corroded surfaces of holes in this range. Designed for use with a ¼" drill. 9¾" long.

Ⓗ **GA-85 Tappet Screw Driver,** used for overhead valve engines. Wide slotted blade, solidly anchored in large-grip wood handle for positive action. 9" long, blade 2½", wide enough to fit over tappets, will not slip off.

Ⓙ **S-8690PL Hydraulic Tappet Tool.** Removes hydraulic tappets when deposits prevent removal with a magnet. Pressure on the knob expands the split gripping collet and a pulling, twisting motion removes the tappet easily and quickly and without undue force. The expandable collet has a plastic covering to provide a good gripping surface on smooth walled lifters, valves, tubes, etc. It handles the longer size solid hydraulic lifters on late model cars and various transmission valves, etc. 14¼" long.

Ⓚ **S-8690 Hydraulic Tappet Tool.** Similar to the S-8690PL above but having knurled collet gripping ends without plastic covering.

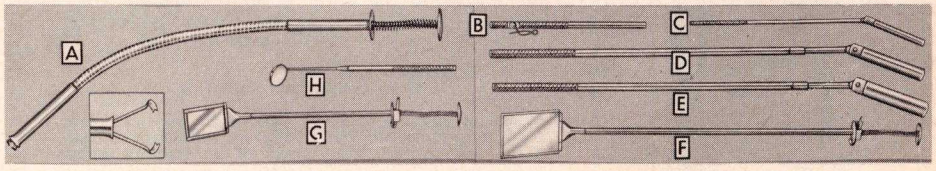
Ⓛ **VG-2A Valve Lapper.** Heavy, machined, cast-iron housing for rugged use, all gears heat treated to resist wear, shaft has ball bearing thrust. Blade oscillates rapidly and advances one sixth of a revolution with each turn of the crank. Tool includes one universal driving bit.

ESD-76 Valve Lift Spring. (Not shown.) Use under valve when using valve lappers.

RUBBER SUCTION CUPS

Ⓜ Hold non-slotted valves properly for lapping operation. High grade rubber shaped to grip tightly. Fit shafts of lapping tools shown here.

VLC-28 7/8" Diameter Cup.
VLC-40 1¼" Diameter Cup.
VLC-56 1¾" Diameter Cup.



FLEXIBLE "GRIP-IT" TOOL

Ⓐ **GA-265 Fully-Flexible "Grip-it".** 17⅛" long, with an 8" flexible section. Bends into a double "S" or a double right angle and still grips any object tightly in the jaws.

The plunger actuates two powerful spring steel jaws the ends of which are notched to give a secure grip.

MAGNETIC PICK-UP TOOLS

Powerful permanent Alnico magnets are fitted to the ends of brass sleeves. The small outside diameters enable them to slip into small openings with ease, while the hinged heads give around-the-corner accessibility as well. Picks up any small iron or steel object.

Ⓑ **PT-7 Pocket Pick-up.** Lifts 16 oz. 6" long.

Ⓒ **PT-10 Small Pick-up.** Lifts 16 oz. 8⅝" long.

Ⓓ **PT-28 Large Pick-up.** Lifts 3½ lbs. Length 16⅝" and extends to 27".

Ⓔ **PT-30 Powerful Pick-up.** Lifts 6½ lbs. Length 17" and extends to 27⅛".

INSPECTION MIRRORS

Square mirrors tilt for best viewing position, operated by plunger. Round mirrors are fixed, set at 135° angle, solid handle.

Ⓕ **Models with 1 11/16" x 2 9/16" mirror.**

GA-51A 16½" long with glass mirror.
GA-51A-1 Extra glass mirror 1 11/16" x 2 9/16".
GA-51AP 16½" long with plastic mirror.
GA-51A-1P Extra plastic mirror 1 11/16" x 2 9/16".

Ⓕ **Models with 2" x 3" mirror.**

GA-53 16½" long with glass mirror.
GA-53-1 Extra glass mirror, 2" x 3".
GA-53P 16½" long with plastic mirror.
GA-53-1P Extra plastic mirror, 2" x 3".

Ⓖ **Models with 1¼" x 1½" mirror.**

GA-52A 11" long with glass mirror.
GA-52A-1 Extra glass mirror 1¼" x 1½".
GA-52AP 11" long with plastic mirror.
GA-52A-1P Extra plastic mirror 1¼" x 1½".

Ⓗ **GA-145** 7" long, ⅞" dia. round mirror.
GA-145M 7" long, ⅞" magnifying mirror.

"C"-CLAMP TYPE VALVE SPRING COMPRESSORS



"C" CLAMP VALVE LIFTERS

No matter what engine valves you are servicing these fast, easy to use "C" Clamps will speed your work. It requires only one hand to compress springs and leaves other hand free to remove or replace locks or keepers.

Helps prevent pinched, smashed or bruised fingers. No more calling a second man away from another job to hold keepers in place while spring is being released.

Powerful leverage with cam locking handles that are self-locking without extra slides or rings. Screw adjusting post is threaded full length for maximum capacity. The threaded shaft adapts to various valve stem lengths and the shaft foot has spring loaded centering point to grip the valve head tightly. Quality made of tempered spring steel, lifetime plated. Jaws not plated.

Ⓐ **CF-11E Universal Type.** For ⅞" through 2½" spring diameters. Height 10½", width 9½". For use on cars, truck, tractor, bus and marine L-Head and Valve in head engines. Three pairs of jaws supplied, CF-21AP, CF-22CP, and CF-23P.

Ⓐ **CF-1E Large Capacity Universal Type.** For ⅞" through 2½" spring diameter, without removing manifold. Height 10½", width 12". Supplied with CF-21AP, CF-22CP, and CF-23P jaws.

Ⓑ **CF-17A For High Compression Engines.** For 1" to 2" spring diameters on V-8 car and truck engines with overhead valving. Height 9¾", width 7". Supplied with CF-22CP medium offset, general purpose jaws.

Ⓒ **CF-18 For Compacts, Foreign Cars, Small Engines.** For ⅞" to 1½" diameter springs. Does L-head work without removing head. Height 6½", width 6¼". Supplied with CF-21AP general purpose jaws.

Ⓓ **CF-19 For Small Air-Cooled Engines.** For ¾" to 1 1/16" spring diameters. Height 5⅛", width 3⅜". Supplied with CF-19-4 and CF-19-3A jaws. Services virtually all small motors, motorcycles, garden tractors, etc.

Ⓔ **CF-700 AIR-OPERATED MODEL.** For 1" to 2½" diameter springs. Height 10", width 8". Supplied with CF-21AP, CF-22CP, and CF-23P Jaws. Gives you complete control for all spring work on late model cars, trucks, buses, tractors, marine and industrial type engines.

This easily handled, light weight (less than 6 lbs.) unit features a completely parallel lift which positively will not bend the valve stem. It operates on line pressures of 90 to 150 pounds and develops pressures equal to three times the line pressure.

Here is the easiest, fastest method of handling heavy valve spring work with a light, efficient, easily handled lifter controlled by two simple air valves.

EXTRA JAWS FOR ABOVE LIFTERS

Will fit all above models except CF-19.

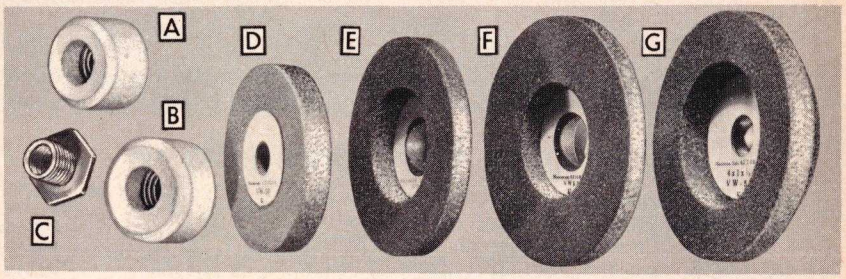
Ⓖ **CF-21AP Low Offset.** Capacity: ⅞" to 1½".

Ⓗ **CF-22AP Low Offset.** Capacity: 1" to 2".

Ⓙ **CF-22BP High Offset.** Capacity: 1" to 2".

Ⓚ **CF-22CP Medium Offset.** Capacity: 1" to 2".

Ⓛ **CF-23P Large Straight.** Capacity: 1½" to 2½".



Ⓐ VALVE SEAT WHEELS
for SNAP-ON VG-16A Grinder

These SNAP-ON valve seat wheels are one third thicker than ordinary wheels and give almost double the length of service. Bushing extends part way through and does not interfere with dressing the wheel. All wheels are cut to 45° angle . . . are easily dressed to 30° without waste. All have ⅝"-18 threaded bushings.

Wheel Diameter	Wheel Depth	For Hard Steel and Stellite	For Finish Work
1¼"	1"	SE-405R	SE-405F
1⅜"	1"	SE-445R	SE-445F
1½"	1"	SE-485R	SE-485F
1⅝"	1"	SE-525R	SE-525F
1¾"	1"	SE-565R	SE-565F
1⅞"	1"	SE-605R	SE-605F
2"	1"	SE-645R	SE-645F
2⅛"	1"	SE-685R	SE-685F
2¼"	¾"	SE-725R	SE-725F
2⅜"	¾"	SE-765R	SE-765F
2½"	¾"	SE-805R	SE-805F
3"	¾"	SE-965R	

UNIVERSAL TYPE VALVE SEAT GRINDING WHEELS

Fine grit wheels designed for use on cast iron, steel, or stellite valve seats. Each has an 11/16"-16 threaded bushing which fits Keystone, Quickway, Skil, Sioux, Thor, U.S. Electric grinders. Used with our VG-10-5A 9/16"-16 Bushing Adaptor they can be used on Black & Decker, K. O. Lee, and Van Dorn valve seat grinders. Depth of each wheel is one inch.

Stock No.	Wheel Diam.	Stock No.	Wheel Diam.
VW-400F	1¼"	VW-560F	1¾"
VW-440F	1⅜"	VW-600F	1⅞"
VW-480F	1½"	VW-640F	2"
VW-520F	1⅝"	VW-680F	2⅛"

VALVE SEAT WHEELS

Ⓑ Universal type, used for cast iron, steel or stellite seats. Have 11/16"-16 threaded bushing, fits Keystone, Quickway, Skil-Saw, Sioux, Thor and U. S. Electric.

Stock No.	Dia.	Depth
#VW-320	1"	1¼"
#VW-360	1⅛"	1¼"
VW-400	1¼"	1"
VW-440	1⅜"	1"
VW-480	1½"	1"
VW-520	1⅝"	1"
VW-560	1¾"	1"
VW-600	1⅞"	1"
VW-640	2"	1"
VW-680	2⅛"	1"
VW-720	2¾"	¾"
VW-760	2⅜"	¾"

Have 9/16" threaded bushing.

Ⓒ **VG-10-5A Bushing Adaptor,** threads into above valve seat wheels to provide 9/16"-16 threaded opening for use with Black & Decker, K. O. Lee and Van Dorn.

VALVE REFACING WHEELS

Designed to fit popular types of valve refacing machines.

Ⓓ **VW-50 Straight Wheel,** 3" x ½" x ½". Fits Black & Decker Types ½" A to EF.

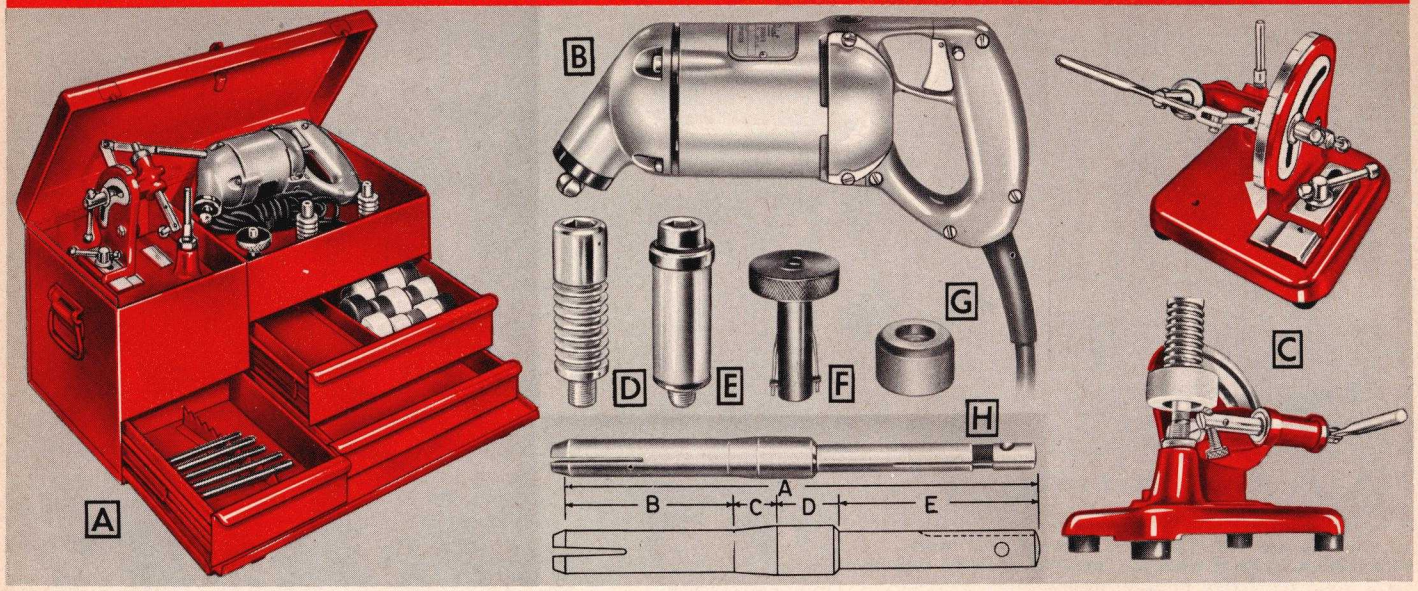
Ⓔ **VW-52 Offset Wheel,** 3½" x ¾" x ⅞". Fits Kwik-Way Refacers.

Ⓕ **VW-53 Offset Wheel,** 4" x ¾" x ⅞". Fits Kwik-Way Refacers.

Ⓖ **VW-54 Offset Wheel,** 4" x 1" x ⅝". Fits Black & Decker Super Service. Van Dorn 9/16" x ⅝", Sioux 620 under serial 15,000. Sioux 650 over serial 30,000 and Sioux 660 over serial 10,000.

Blue-Point® VALVE SEAT GRINDER SET

RESURFACES HARD OR SOFT VALVE SEATS . . . ACCURATELY—SPEEDILY



Blue-Point VALVE SEAT GRINDER SET

Ⓐ **VG-124C-B Valve Grinder Set.** Gives you all the units you need to do a perfect job on all cars and light trucks (except some foreign-makes). The special metal case has non-spill drawers with plenty of room for additional wheels and pilots. This rugged box has trunk-type handles, piano-type hinges, tumbler lock, and red enamel finish. Two wheel carriers are included to eliminate time consuming interchange of roughing and finishing stones. Individual units are described on this page. For valve seat reconditioning at its finest here is the set you need.

VG-124C Grinder Set. Above set without the case.

VG-124C-B SET CONTAINS

	PILOTS
VG-16A Driver	VX-10 — 5/16"
VG-25B Dresser	VX-11L—11/32"
VG-10-2D Carrier (2 included)	VX-12—3/8"
VX-1 Pilot Wrench	VX-397—.397"
KRA-100 Metal Case	VX-14 — 7/16"

VALVE GRINDING WHEELS

Rough	Diam.	Fine
SE-445R	1 3/8"	SE-445F
SE-485R	1 1/2"	SE-485F
SE-525R	1 5/8"	SE-525F
SE-565R	1 3/4"	SE-565F
SE-605R	1 7/8"	SE-605F
SE-645R	2"	SE-645F
SE-685R	2 1/8"	SE-685F

Blue-Point HEAVY DUTY DRIVER

Ⓑ **VG-16A Heavy Duty Driver.** This driver has a 55° angle drive to provide good operating balance and working clearance from obstructions. The hex ball driving spindle incorporates a built-in vibrating action which lifts the stone from the seat once each revolution. This prevents loading the stone, speeds grinding and reduces stone wear. All grinding is concentric, cutting the entire circumference of the seat and assuring correct alignment. Motor is 115 volt, 5.5 amps, 60 cycle AC/DC. Free running speed is 12,000 R.P.M. 9½ feet of 3-wire cable. Natural aluminum finish. 6¾ lbs. net weight, 11½" long.

VG-16A-220 Driver. Same as above but with 220 volt, 3.5 amp., AC/DC motor.

Note: Grinding wheels for above are listed on page 125.

Blue-Point WHEEL CARRIERS

Ⓓ **VG-10-2D Wheel Carrier.** Spring mounting permits vertical vibrating action which prevents undue wheel pressure and allows centrifugal force to throw out grindings. Cooling fins dissipate heat. 4 3/8" long. 5/8"-18 threads.

Ⓔ **VG-15 Ball Bearing Wheel Carrier.** Inner sleeve engages the pilot groove to prevent turning and the wheel carrying outer sleeve rides and rotates on sealed ball bearings around the inner sleeve. Recommended for heavy duty or very frequent use. 4 3/8" long. Has 5/8"-18 threads.

Blue-Point WHEEL DRESSER

Ⓒ **VG-25B Diamond Wheel Dresser.** Dresses any angle on all types and sizes of valve seat wheels up to 6½" diameter. All moving parts, handle joints, etc., are machined to give smooth, wabble-free operation.

Screw plunger is carried by a sliding housing on a three-hole positioning plate. Adjustment is quickly made to the wheel diameter.

Angle setting index is quickly positioned on the large, easily read gauge.

Leather seals keep grit out of plunger guide hole.

Hardened plunger has a machined keyway to hold diamond in true alignment and diamond has over a half inch screw adjustment.

Lock nut locks threaded pilot at the correct wheel height.

Heavy cast iron base has rubber feet and holes for permanent mounting.

VG-25-6 Replacement Diamond Screw

Ⓕ **VX-1 Pilot Wrench.** A convenient tool for inserting and removing valve guide pilots. Two spring loaded plugs lock into pilot hole. Push button releases the lock.

Ⓖ **Small Valve Wheels.** For small engines, some Continental Motors, air compressor engines, etc. Universal grit for roughing and finishing. Dress to required angle before using.

UVS-32 Wheel ..... 1" diameter x 1¼" thick

UVS-36 Wheel .... 1⅛" diameter x 1¼" thick

NOTE: See Listings of Valve Refacing and Valve Seat Wheels on page 125

Ⓗ Blue-Point PILOTS

These pilots lock securely and center correctly, because each segment acts independently, compensating for wear in its own portion of the guide hole — accommodates guides worn up to .008". Clean valve guide hole before inserting.

Stock No.	Guide Size	Dimensions in Inches A	B	C	D	E
VX-8	1/4"	5 11/32	13/32	7/8	—	3 3/8
VX-8S	1/4"	4 21/32	25/32	7/8	—	3
VX-9	9/32"	5 11/32	13/32	7/8	—	3
VX-9S	9/32"	4 21/32	25/32	7/8	—	3
VX-10	5/16"	5 1/4	1 3/4	3/4	—	2 3/4
VX-10S	5/16"	4 9/16	1 5/16	7/8	—	2 3/8
VX-10L	5/16"	6 1/4	1 3/4	3/4	1/2	3 1/4
VX-11	11/32"	5 1/4	1 3/4	3/4	—	2 3/4
VX-11S	11/32"	4 1/2	1 1/4	7/8	—	2 3/8
VX-11L	11/32"	6 1/4	1 3/4	3/4	1/2	3 1/4
VX-12	3/8"	5 3/4	2	3/4	—	3
VX-12S	3/8"	4 1/2	1 1/4	7/8	—	2 3/8
VX-12L	3/8"	7 1/4	2 1/4	3/4	1	3 1/4
VX-397	.397"	5 5/8	2	5/8	—	3 1/8
VX-13	13/32"	6	2 1/4	3/4	—	3
VX-13L	13/32"	8 1/4	2 1/4	3/8	1	3 3/4
VX-14	7/16"	6 1/4	2 1/2	3/4	—	3
VX-14L	7/16"	8 1/2	2 1/2	1 7/16	1 5/16	3 1/4
VX-16	1/2"	6 1/4	2 1/2	3/4	—	3
VX-16L	1/2"	8 1/8	2 1/2	1 5/16	1	3 5/16

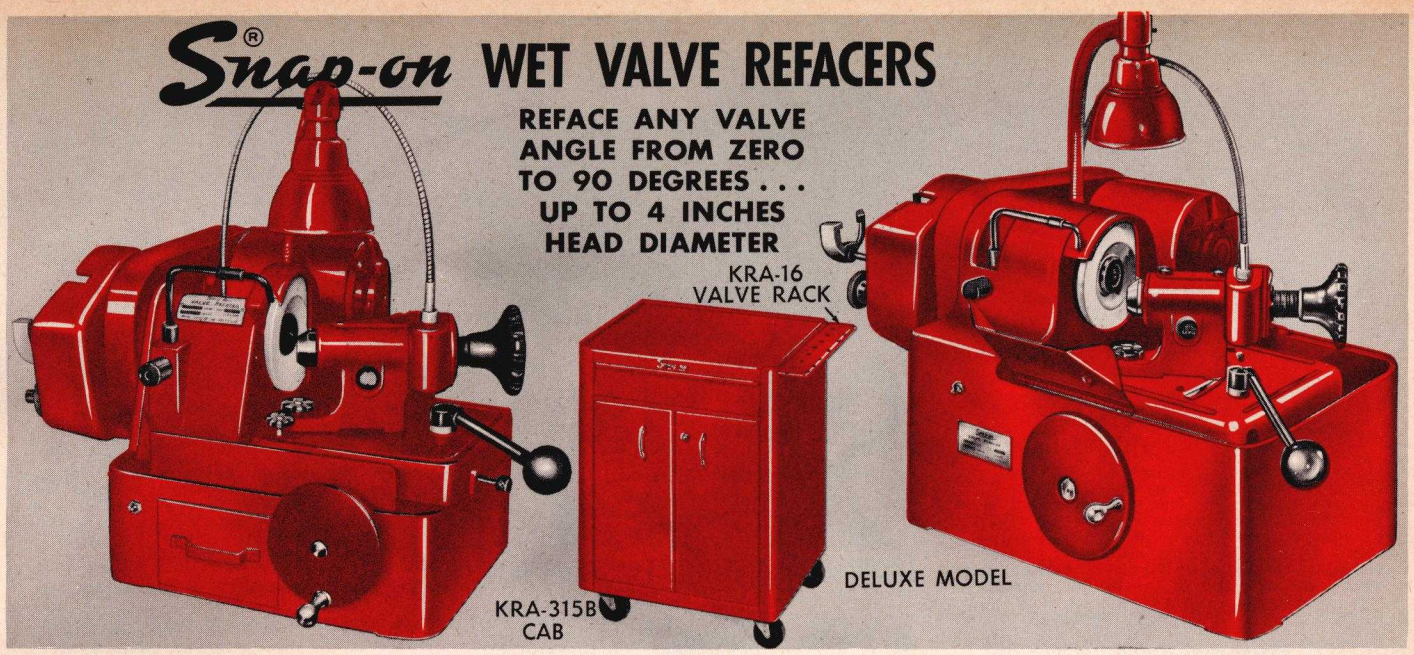
Ⓗ METRIC VALVE GUIDE PILOTS

Needed for use on the more popular makes of foreign cars. These pilots lock securely and center correctly — each segment acts independently, compensating for wear in its own portion of the guide hole.

Stock No.	Guide Size in mm.	Dimensions in Inches A	B	C	D	E
VX-236	6	4 1/32	25/32	7/8	—	2 3/8
VX-255	6 1/2	4 9/16	1 5/16	7/8	—	2 3/8
VX-275	7	4 9/16	1 5/16	7/8	—	2 3/8
VX-295	7 1/2	5 9/32	1 25/32	3/4	—	2 3/4
VX-315	8	5 9/32	1 25/32	3/4	—	2 3/4
VX-334	8 1/2	5 9/32	1 25/32	3/4	—	2 3/4
VX-354	9	5 9/32	1 25/32	3/4	—	2 3/4
VX-374	9 1/2	5 3/4	1 25/32	3/4	—	3
VX-393	10	5 3/4	1 25/32	3/4	—	3
VX-820	.820	4 3/4	3/4	1/2	—	3 1/2

Snap-on® WET VALVE REFACERS

REFACE ANY VALVE ANGLE FROM ZERO TO 90 DEGREES . . . UP TO 4 INCHES HEAD DIAMETER



RECONDITIONS VALVES, VALVE LIFTERS AND ROCKER ARMS FOR CARS, TRUCKS, TRACTORS AND AIRCRAFT, MARINE AND OTHER ENGINES

DELUXE AND STANDARD MODELS AVAILABLE

VR-300 Deluxe Series Refacers. Important features are designed into these machines to make them easier to use and service and to keep them efficient and accurate over a longer time period. The base is larger and heavier than the standard models and all working parts such as worktable ways, wheel spindle and feed screw are pre-loaded and never require adjustment for wear. Coolant tank is drawer type for easy removal, worktable and ways are heavier construction and sit within the housing wall to prevent loss of coolant. Micrometer Butt Grinder is included as standard equipment.

VR-200 Standard Series Refacers. Fine machines with many features identical to the Deluxe models. Work tables have lathe-type ways and are preloaded for smooth self adjusting action. Micrometer Butt Grinder is optional equipment. A "V" rest for butt grinding is provided on machines without Micrometer Butt Grinder.

Features Common To Deluxe and Standard Models

- Reface any valve angle 0° to 90° with quickset positive stops for 14, 15, 19, 20, 29, 30, 44, 45 and 90°.
- Heavy, rugged, reinforced cast iron base to minimize vibration.
- Right-hand table-traverse arm is adjustable to any position.
- Double-grip, true-center collet handles valve stems 9/32" to 9/16" diameter.
- Flexible drive shaft assures constant speed ratio between wheel and valve.
- Baffled coolant tank delivers clean fluid to large capacity vane-type pump. Tank is removable drawer type.
- Tapered rocker arm attachment bushings are included to fit all sizes of rocker arms.
- Oil and grease fittings are out in the open.
- Quick-set valve stop requires only one setting to complete all valves in a series.
- Adjustable stop protects valve stem and spindle from contact against the grinding wheel.

STANDARD EQUIPMENT

Double end collet 9/32" to 9/16" valve stem diameter
Diamond Stone Dresser
Rocker Arm Attachment
Micrometer Butt Grinder with Valve Tappet holder, valve depth gauge and 46 Grit wheel (on VR-300A and VR-200BM Series)
"V" Rest for Butt Grinding (on VR-200B Series only)
Pint can of Soluble Oil
Complete Lamp Assembly
80 Grit Refacing Wheel

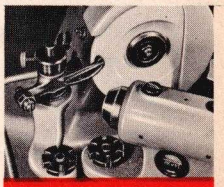
EXTRA EQIUPMENT

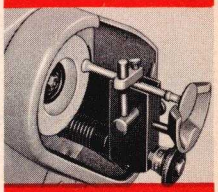
VRC-1 Vinylite Cover for Refacers
VR-2W-36 Collet 3/16" to 5/16" stem capacity
VR-2W33 Collet 9/32" to 9/16" stem capacity
VR-2W34 Collet 1/4" to 3/8" stem capacity
VR-2W35 Collet 1/2" to 11/16" stem capacity
VR-2W37 Collet 9/32" to 13/32" for Falcon, Comet, Corvair and Olds F-85
VR-2M89 46 Grit Butt Grinding Wheel
VR-2M110A Pint can of Soluble Oil
VW-60 60 Grit Refacing Wheel
VW-80 80 Grit Refacing Wheel
VW-80S 80 Grit Refacing Wheel for Stellite valves

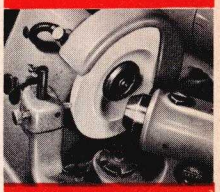
CABINET AND WORK TOP

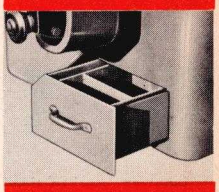
KRA-315B Roll Cab. Recommended for use with the above valve refacers. Drawer is 18¼" x 21½" x 4⅛" deep. It has heavy duty runners and full length handpull. Doors have pockets for instruction manuals, etc. Locking the doors also locks the drawer. Top is 19" x 26½" and has a raised lip on sides and back. Compartment has one shelf. Height of cab is 34¾". All wheels swivel. Valve rack is not included with roll cab.

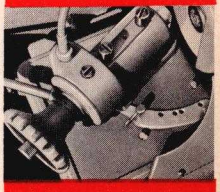
KRA-16 Valve Rack. Hooks over raised lip of cab top and holds sixteen valves.


Rocker Arm Attachment


Micrometer, Butt Grinder


Diamond Wheel Dresser


Removable Coolant Tank


Positive Stop Angle Settings

MODELS AVAILABLE — ORDER BY STOCK NUMBER SHOWN BELOW

MODELS AVAILABLE	Motor ½ H.P., 115 V 1 Ph. 60 Cy. AC	Motor ½ H.P., 230 V 1 Ph. 60 Cy. AC	Motor ½ H.P., 115 V 1 Ph. 50 Cy. AC	Motor ½ H.P., 230 V 1 Ph. 50 Cy. AC
DELUXE SERIES — With Standard Equipment	VR-300A	VR-301A	VR-304A	VR-305A
STANDARD SERIES — With Standard Equipment	1/3 H.P., 115 V 1 Ph. 60 Cy. AC	1/3 H.P., 230 V 1 Ph. 60 Cy. AC	1/3 H.P., 115 V 1 Ph. 50 Cy. AC	1/3 H.P., 230 V 1 Ph. 50 Cy. AC
Without Micrometer Butt Grinding Attachment	VR-200B	VR-201B	VR-204B	VR-205B
With Micrometer Butt Grinding Attachment	VR-200BM	VR-201BM	VR-204BM	VR-205BM

Models with special voltage motors are available on special order. Prices upon request.

FILES AND FILE HANDLES



VIXEN REVEAL FILE SET

HB-606 Vixen Reveal File Set. This provides the body repair craftsman one of the most useful and convenient file sets for handling those hard-to-get-at ledges and corners without damage to other surfaces. The set includes a metal holder into which any of five different shaped files are quickly locked. A gripping knob on top of the holder permits two-hand operation and a firm control of the file and the amount of metal removal.

Ⓐ **HB-152.** Vixen Reveal File Holder.

Ⓑ **HB-153F.** Half-Round, Shell File.

Ⓒ **HB-154F.** Flat, square-cornered with one edge bent lengthwise and teeth on the convex side.

Ⓓ **HB-155F.** Flat, Rounded Edge File with teeth on both sides.

Ⓔ **HB-156F.** Half-Round, Bent Shell File.

Ⓕ **HB-157F.** Half-Round, Moulding File.

FLEXIBLE FILE HOLDER

Ⓖ **BF-775B Flexible File Holder.** Light and rigid over a wide range of concave and convex adjustments. Big aluminum handles provide ample grip for large hands — high clearance turnbuckle protects knuckles. Heat treated turnbuckle screws insure positive adjustment. Permanently attached strap takes 14″ files.

Ⓗ **Files for above holder.**

14-V Flat Flexible Curved-Tooth File, eight teeth to the inch. 14″ long.

14-V7 Flat Flexible Curved-Tooth File, seven teeth to the inch. 14″ long.

14-V6 Flat Flexible Curved-Tooth File, six teeth to the inch. For work on soft materials, plastic, fibreglas, etc. 14″ long.

14-VHR Vixen Shell Type Half-Round File. Use where a milled-tooth half-round file is required on bearing work or on body work. Eight teeth per inch on convex side only. 14″ long.

STRAIGHT WOOD FILE HOLDERS

These file holders are made from hard maple. They are light and durable, and narrow enough to allow file overhang on both sides. File can be convexed by inserting wedge under center. Use with the 14-V, 14-V6 or 14-V7 14″ Vixen files listed at left.

Ⓙ **BF-142 Straight Type File Holder.**

Ⓚ **BF-141 Saw Handle Type File Holder.**

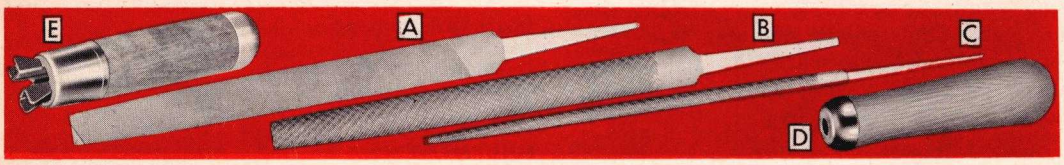
BUMPING FILES

▲ Ⓛ **HB-303 Bumping File Set.** These three files are 12″ long and 1⅜″ wide, and are used like hammers with dolly blocks to slap out dents in bodywork. They do not expand the metal but rather tend to contract it to the original shape. Set contains the three files listed below.

▲ **HB-2088** ..... **Flat, Coarse Cut File.**

▲ **HB-2089** ..... **Flat, Medium Cut File.**

▲ **HB-2090** ..... **Half-Round Medium Cut File.**



Ⓓ WOOD FILE HANDLES

Metal ferrules molded into the wood prevents splitting. Gives sure grip and protects your hands. Smoothly finished, shaped for comfort.

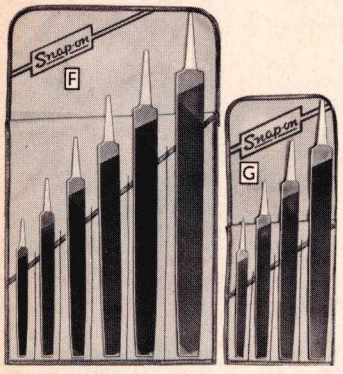
102E fits 6″ to 8″ files.

103E fits 8″ to 10″ files.

104E fits 12″ to 16″ files.

Ⓔ TOOL HOLDER

GA-98 Tool Holder. Provides large, comfortable grip for files and other tools. Has two adjustable serrated jaws that grip tool so it cannot turn. Jaws controlled by metal cap on end of handle. Maximum opening ⅜″, 4½″ long, diameter 1″.



HIGH QUALITY "NU-CUT" FILES

Made of finest alloy steel and heat treated for durability and toughness. Teeth are cut with uneven spacing to assure smoother, fast cut and provide self-cleaning action. You buy the best when you buy from SNAP-ON.

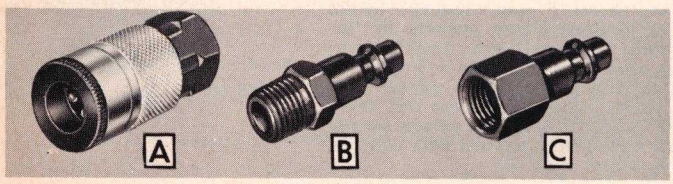
Length	Ⓐ Mill Files Stock No.	Ⓑ Half Round Files Stock No.	Ⓒ Round Files Stock No.	Ⓒ Round Files Diam.
6″	6-M	6-HR	6-R	7/32″
8″	8-M	8-HR	8-R	9/32″
10″	10-M	10-HR	10-R	3/8″
12″	12-M	12-HR	12-R	1/2″
14″	14-M	.....	....	....
16″	16-M	.....	....	....

Ⓕ **HBM-60-K Set.** 6″, 8″, 10″, 12″, 14″, and 16″ Mill files in C-66B kit.

Ⓖ **HBM-40-K Set.** 6″, 8″, 10″ and 12″ Mill files in C-46B kit.

HBH-40-K Set. 6″, 8″, 10″, and 12″ Half Round files in C-46B kit.

HBR-40-K Set. 6″, 8″, 10″, and 12″ Round files in C-46B kit.

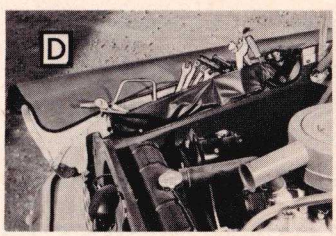


AIR LINE COUPLERS

Ⓐ **GA-286 Quick Coupler.** Provides a very fast and easy method of attaching and removing air tools from air lines. The spring loaded quick coupler body end accepts SNAP-ON coupler adaptors which simply push into the coupler body for fast connection. The opposite end of the coupler has a ¼″-18 N.P.T. female thread for attachment to either an air line or to a whip hose. A ¾″ single hex portion at the threaded end of the unit permits use of a wrench to tighten the quick coupler securely to an air line.

Ⓑ **GA-287 Male Coupler Adaptor.** Enables fast attachment and removal of a pneumatic tool from a hose or air line. It has a ¼″-18 N.P.T. male threaded end for attachment to a pneumatic tool. The other end is specially shaped to securely join with the quick coupler.

Ⓒ **GA-288 Female Coupler Adaptor.** Enables fast attachment and removal of a pneumatic tool and the hose from an air line. It has a ¼″-18 N.P.T. female threaded end for attachment to an air line. The other end is specially shaped to fit the quick coupler.





FENDER AND SEAT COVERS

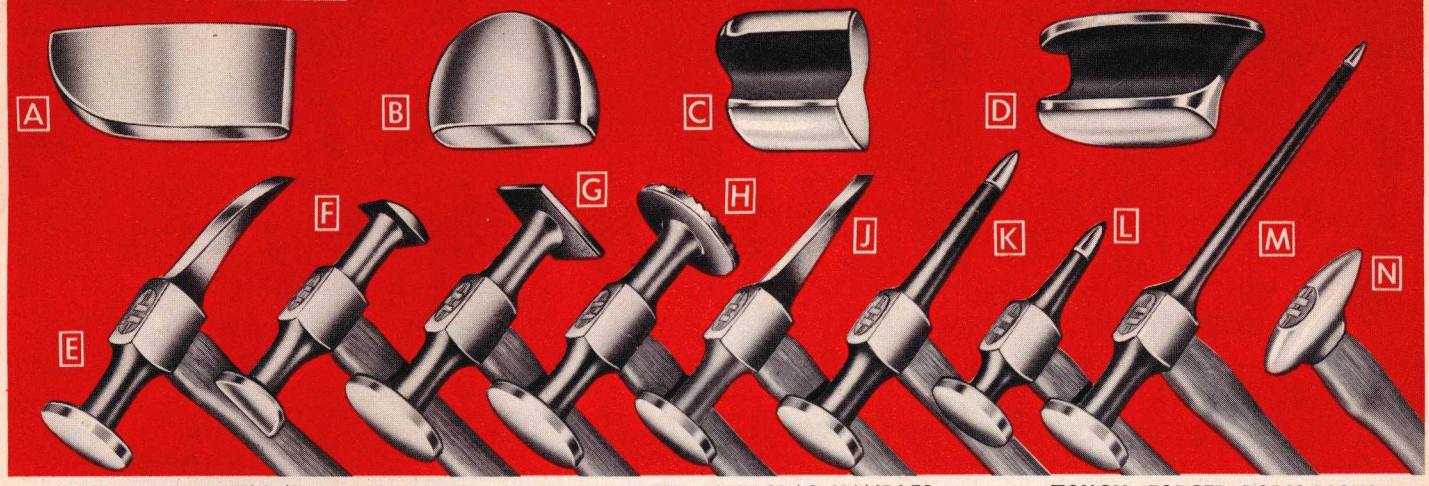
Made with a rubberized surface that is impervious to oil, gasoline, and similar solvents, and is also highly resistant to battery acids. This surface is securely bonded to a non-slip rubber base and should not bubble or crack, even when folded.

Ⓓ **CK-6A Fender Cover.** Size 22″ x 47″ with a 3-section tool pocket 5″ x 30″. The pocket hangs down inside the fender and provides a convenient holder for small tools or parts.

Ⓔ **CK-15A Seat Cover.** 30″ x 51″. Big enough to cover both seat and backrest.

▲ **Federal Specs: GGG-F-00325 applies to the Bumping Files indicated by the symbol ▲**

Snap-on® BODY TOOLS ARE THE FINEST YOU CAN BUY



Ⓐ **BF-710A Toe Dolly.** With its many curves and edges, this tool fits a great many of the odd curves found on modern streamlined cars. 4¾″ long, 2¼″ wide, 1¹⁄₁₆″ high. Wt. 2½ lbs. A time saver on many jobs.

Ⓑ **BF-711 Heel Dolly.** A good basic tool for it handles a majority of jobs on new or old cars. 3″ long, 2¼″ wide, 1⅜″ high. Weight 2¼ lbs. Should be in every body repair kit.

Ⓒ **BF-712 General Purpose Dolly.** Especially designed for deep skirted fenders. Semi-flat surface is useful for shrinking work where heat is used. 3″ long, 2¼″ wide, 2¼″ high. Weight 2¾ lbs.

Ⓓ **BF-714 Anvil Dolly.** The most essential and useful dolly made. The streamlined wide curved faces fit contours of all portions of the body and door panels. Provides ideal surface for most fenders. Small oval is perfect for outside curves when hammer is used on the inside of the work. 4″ long, 2¾″ wide, 2⅛″ high. Anvil faces 1¾″ by 4″; 2¾″ by 3″. Wt. 2 lbs. 14 oz.

▲ Ⓔ **BF-608 Short Curved Cross Peen Hammer.** Curved peen is for use under rolled edge fenders. Has perfect finishing face for use as regular dinging hammer. 5⁵⁄₁₆″ long, 1⅝″ round face, ⅝″ by ¹⁄₁₆″ peen end. Wt. 11½ oz.

▲ Ⓕ **BF-615 Reverse Curve Light Bumping Hammer.** The odd contours of fenders and bodies in the new automobiles with the "sculptured" look require a tool of this design. Head is 4″ long, one face is 1¹⁄₁₆″ square, the other is 1³⁄₁₆″ diameter round. Each face has a 1⁵⁄₁₆″ radius curve for use on reverse curves on fenders, headlights, doors, etc. 12″ handle, wt. 12 oz.

▲ Ⓖ **BF-606 Wide Face Shrinking Hammer.** Wide faces are essential for shrinking operations on heated metal panels. Both faces absolutely flat to prevent stretching metal. Also used for panel bumping. 4¼″ long 1⅞″ round face and 1⅝″ square face. Wt. 17 ozs.

Ⓗ **BF-617 Shrinkage Hammer.** Has extra wide faces for shrinking and working large surfaces. Round 1⅞″ face as cross-milled serrations for shrinking and 1⅞″ diameter round face is smooth for finishing. 4¼″ long. Wt. 1 lb.

▲ Ⓙ **BF-604 Wide Nose Cross Peen Hammer.** Excellent for finishing. Cross peen is useful for working in sharp corners around mouldings and for caulking. 5½″ long, 1⅝″ round face. Peen end ⅝″ wide, ¹⁄₁₆″ thick. Weight 11½ ozs.

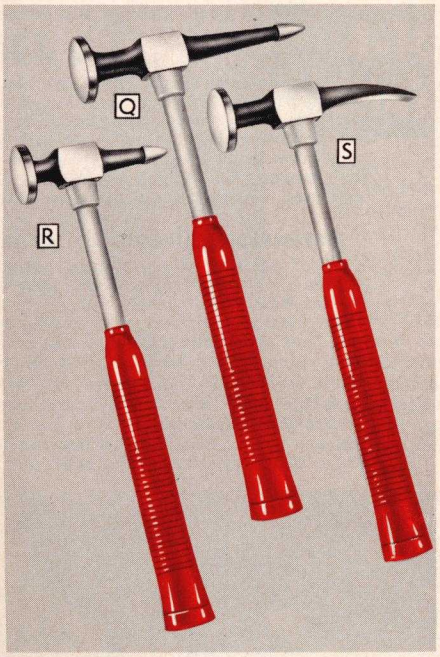
▲ Ⓚ **BF-603 Long Low Spot Kick Hammer.** Especially adapted for bumping out small, low spots while filing. Saves solder. Recommended for use wherever metal is covered with sound-proofing materials, such as tops, bodies and doors. 6⅛″ long, 1¹⁹⁄₃₂″ round face. Pick tapers to a ¹⁄₁₆″ point from a ⁷⁄₁₆″ base. Wt. 12½ ozs.

▲ Ⓛ **BF-611 Picking and Dinging Hammer.** For smoothing out small dents and for general dinging work. 4″ long, 1¹⁵⁄₃₂″ round face, ¹⁄₁₆″ point tapered from ⁷⁄₁₆″ base. Wt. 8 ozs.

▲ Ⓜ **BF-614 Long Picking Hammer.** 6″ long picking shaft with rounded point . . . good for turret and deep fender work. The round flat face is 1⅝″ diameter. Overall head length is 8⅝″. Wt. 1 lb. Handle is 17″ long.

Ⓝ **BF-616 Pick Hammer.** The short head, only 2¾″ long and ⅞″ wide, together with the 16″ long handle makes this tool especially useful on door panels and other limited access areas. Head is chrome plated. Wt. 9½ ozs.

HAMMERS WITH FIBERGLAS HANDLES



Made of unidirectional fiberglas, the strongest known material for hammer handles. It is much stronger than wood, yet has the "feel" and "bounce" of finest hickory. Impervious to oil, gas, grease and all common chemicals, will not dryrot, warp or splinter. High or low temperatures do not affect them. The red handle grips are of a shock-absorbing, non-slip plastic, light in weight and comfortable to hold and use.

Ⓠ **BF-603PH Spot Pick Hammer.** Head is similar to Ⓚ BF-603 above.

Ⓡ **BF-611PH Picking and Dinging Hammer.** Head is similar to Ⓛ BF-611 above.

Ⓢ **BF-608PH Short Curved Cross Peen Hammer.** Head is similar to Ⓔ BF-608 above.

FIBERGLAS HANDLE KITS

For use on any hammer. Kit consists of a fiberglas handle, plastic ferrule collar, curved and flat ferrule caps, sealing tape, two tubes of "Nuplabond," stirring stick, instructions and hammer handle size chart.

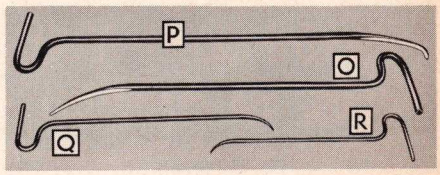
BPH-120 12″ Handle Replacement Kit.

BPH-160 14″ Handle Replacement Kit.

HANDLE BONDING KIT

BPH-30K Replacement Bonding Material Kit. Needed when a fiberglas handle is slightly too small for hammer head and additional material is needed to supplement the replacement kit or when original supply of Nuplabond is improperly mixed. Kit contains one tube each of Nuplabond "A" and "B."

TOUGH, FORGED BODY PICKS



For pushing out small dents with a twisting or prying action in very tight spots. Forged and heat treated to give strength and toughness. Handle end aids in manipulation.

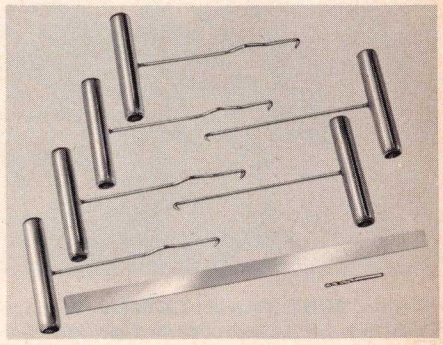
Ⓞ **BF-1106** 26½″ long with curved point at right angle to handle, ⁹⁄₁₆″ round stock.

Ⓟ **BF-1107** 31″ long with curve and point at right angle to handle, ⁹⁄₁₆″ round stock.

Ⓠ **BF-767A** 18″ long with curved point at right angle to handle. ⅜″ round stock.

Ⓡ **BF-766A** 14″ long with curved point at right angle to handle. ⁵⁄₁₆″ round stock.

PULL ROD SET DOES A FAST JOB



Save time on many body jobs by drilling ⁹⁄₆₄″ holes and pulling metal to original shape from the outside. No need to remove headliners, upholstering, etc. Do the job in a fraction of former time. Pull Rods have formed relief to prevent distortion of the hole and a ⅜″ flat area to lift metal without distortion. Pick Pulls have a thin point to enter between closely spaced panels. Instructions furnished with each set.

BF-200 Pull Rod Set includes 4 Pull Rods; 2 Pick Pulls; 1 stainless steel straight edge and 1 high speed ⁹⁄₆₄″ drill.

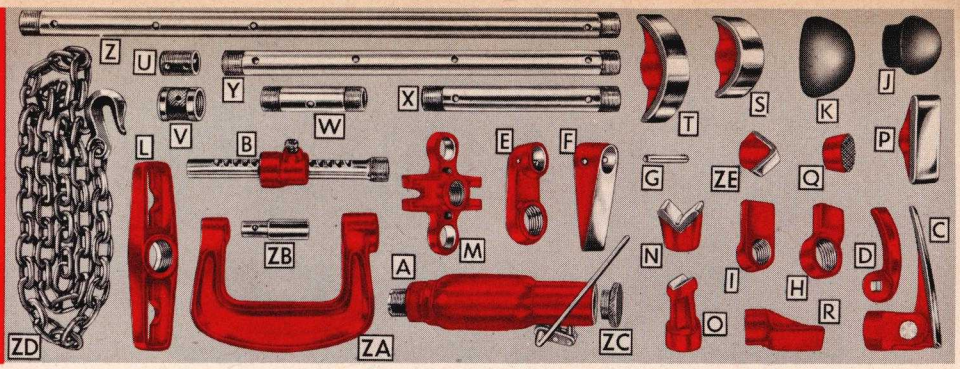
FIRST GRADE HICKORY HANDLES

Standard 12″ length handles used in these hammers have octagon grip to keep tool from slipping. Handles are first grade white hickory, available in 12″ and 17″ lengths.

BF-603-2	12″ long.	For BF-603, BF-604, BF-606, BF-608, BF-610, BF-614.
BF-614-2	17″ long.	
BF-611-2	12″ Handle.	For BF-611.

▲ Federal Specs: GGG-H-0020 applies to all items on this page indicated by the symbol ▲.

BJ-10 10-TON "HYDRA-PAK" SPEEDS UP BODY AND FRAME REPAIR WORK



YOU REGULATE THE PRESSURE EXACTLY BECAUSE YOU SEE THE WORK AS YOU ARE DOING IT

BJ-10 Hydra-Pak Set. Permits you to apply hydraulic power speedily and accurately — controlled to a fraction of an inch. Using "Hydra-Pak" is as simple as using a hand jack — the hydro-unit is right in front of you, on the tool itself where you can regulate power as you watch the job . . . where one man can handle the tool and job all by himself and do better, faster work because he can see what he does as he does it. "Hydra-Pak" has no hose for transmission of fluid, no motors, no remote power connections.

"Hydra-Pak" gives you precision hand-control of 10 tons of power, applied through various combinations of specialized attachments to push, pull, bend, spread, press, lift and clamp . . . controlled power for every operation necessary in body rebuilding work. Cutting power is like shutting a valve . . . the "push" stops instantly, no easing off, no over riding. "Hydra-Pak" also retracts automatically . . . saves time on each set-up.

(A) "HYDRA-RAM"

BJ-10-1E "Hydra-Ram". This self-contained hydraulic power unit develops ten tons of pressure and operates at full efficiency regardless of the position in which it is used. Use it on any job in whatever is the most useful working hook-up and placement and know that it will deliver its full power under complete control at all times. The pump handle attaches in 12 positions for convenient use.

The plunger moves straight out for a full 6" travel to apply pressure without twisting the contact pad out of position. It stops and holds securely at any point on the travel range but can be retracted instantly by turning the release valve.

(B) "KWIXTENSION"

BJ-10-2 "Kwixtension". This unit provides a lightning-fast extension of tubes when making a set-up on the job. The "Kwixtension" provides an additional eight inches of tube length with fourteen stop positions before a change-over of extension tubes is necessary. You simply slide it out to the best stop position and then operate the "Hydra-Ram" Power Unit. To retract the unit, just lift the knurled knob and slide the extension back through the housing.

(C) ADJUSTABLE SPOON

BJ-10-3 Adjustable Spoon. The spoon blades are quickly attached to the holder in any one of twelve working positions. Adjustments in position can be made without removing the set-up from the job. This is a great time saver as the blade position can be gradually adjusted as the job progresses. Slips into very restricted working spots to push out panels, etc.

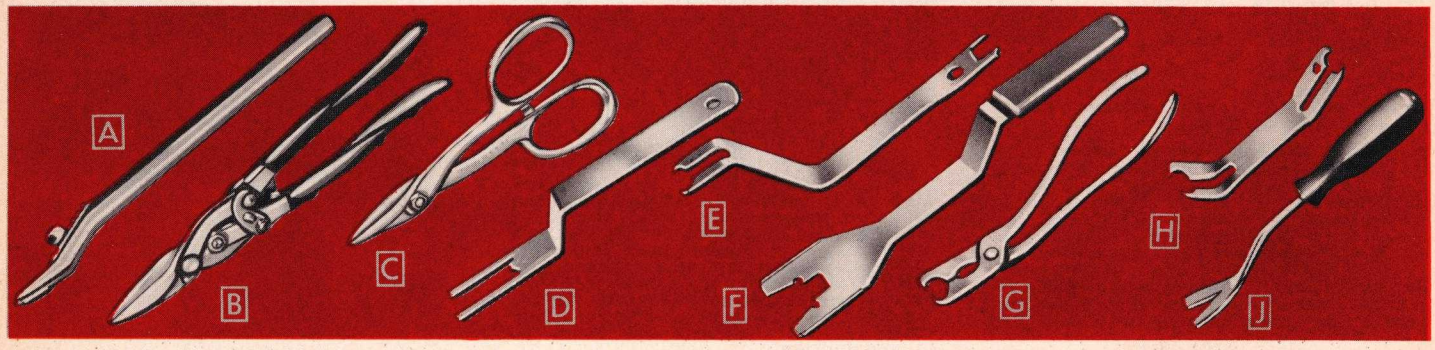
EXTENSION TUBES AND ATTACHMENTS

Made of Seamless Steel Tubing tested to withstand greater pressures than you will ever apply with the "Hydra-Ram". They are quickly attached to the "Hydra-Ram" by means of free-turning threaded ends that are protected against burring by a special safety step. Holes are provided for positioning the clamp units. Pins lock the clamps onto the tubes.

Malleable and special alloy steels are used in all "Hydra-Pak" attachments and pads, and the castings are carefully machined and surface-finished to assure safe, dependable operation and long life.

Contents of the Set

Key Letter	Stock No.	Description
A	BJ-10-1E	"Hydra-Ram"
B	BJ-10-2	Kwixtension
C	BJ-10-3	Adj. Spoon with BJ-10-3-2 Blade
D	BJ-10-3-3	Small Blade
E	BJ-10-4-1	Clamp Head
F	BJ-10-4-2	Clamp Toe
G	BJ-10-4-3	Clamp Pin (2 incl.)
H	BJ-10-5-1	Spreader Toe
I	BJ-10-5-2	Plunger Toe
J	BJ-10-6	Pad (Small)
K	BJ-10-7	Pad (Large)
L	BJ-10-8	Chain Plate
M	BJ-10-9	Chain Plate (2 incl.)
N	BJ-10-10	90° V-Base
O	BJ-10-11	90° V-Base (2 incl.)
P	BJ-10-12	Flat Base Pad
Q	BJ-10-13	Serrated Pad
R	BJ-10-14	Wedge End
S	BJ-10-15	3" Radius Pad
T	BJ-10-16	5" Radius Pad
U	BJ-10-17	Pad Coupler
V	BJ-10-18	Tube Coupler
W	BJ-10-21	6" Steel Tube
X	BJ-10-22	12" Steel Tube
Y	BJ-10-23	24" Steel Tube
Z	BJ-10-24	36" Steel Tube
ZA	BJ-10-27	"C" Clamp
ZB	BJ-10-27-1	Clamp Adaptor
ZC	BJ-10-28	Base Plate
ZD	BJ-10-29	⅜" Chain (2 incl.)
ZE	BJ-10-31	Angle Base Pad



BODY PANEL CUTTER

Long cuts in straight, curved or crooked lines are easy with this cutter. Reaches places where shears won't work. Cuts through body steels easily and leaves a clean edge which is especially desirable where a section of panel is removed and new steel welded in place. Made from best grade chisel steel. The replaceable blade is made of finely tempered spring steel.

(A) **BF-708C Panel Cutter.** With one blade.
BF-708C-2 Extra Cutter Blade.

(B) METAL CUTTING SHEARS

For cutting duraluminum, stainless steel and other tough, hard metals. Narrow body allows the cut metal to pass freely over snip. Blades have serrated cutting edges for easier cutting. Handles drop forged and covered with oil and grease resistant soft red plastic. Heat treated, chrome plated.

▲ **CDS-10 Straight Cut Shears.**
▲ **CDR-10 Right Cut Shears.**
▲ **CDL-10 Left Cut Shears.**

(C) TINNER'S SNIPS

Finest professional quality snips. Three sizes handle a wide variety of jobs and materials. Hammer forged from high quality alloy steel with cutting edges accurately ground. Will cut straight, circular or irregular shapes in right or left hand direction. Blades are shaped to draw metal into the jaws. Have great leverage for cutting heavy metals. Large finger grips afford comfortable grip.

▲ **CD-7 Snips.** 1½" blades, 7" overall length.
CD-10 Snips. 2¼" blades, 10" overall length.
▲ **CD-12 Snips.** 3" blades, 12" overall length.

SPECIAL DOOR HANDLE AND DOOR PANEL TOOLS

(D) **S-9478B Door Handle Tool.** For 1955–1962 Chrysler line cars. The two prongs are 5/64" thick and are tapered for easy entry between handle and plate. A raised wall contacts the spring clip forcing it out of the shaft groove to release handle.

(E) **S-9538A Door Handle Tool.** For late model cars except Chrysler products. Inside flange construction of old and newer handles is different. Hook end of tool works on old style handles.

(F) **A-159 Door Handle Tool.** For use on Ford products and General Motors products through 1967 (except Cadillac) and for other cars except Chrysler products. Tool tips spread the spring clip to allow handle removal. Clip remains on handle collar. Tool is 10⅞" long with a red plastic covered offset handle. Shovel type end is 2¼" wide.

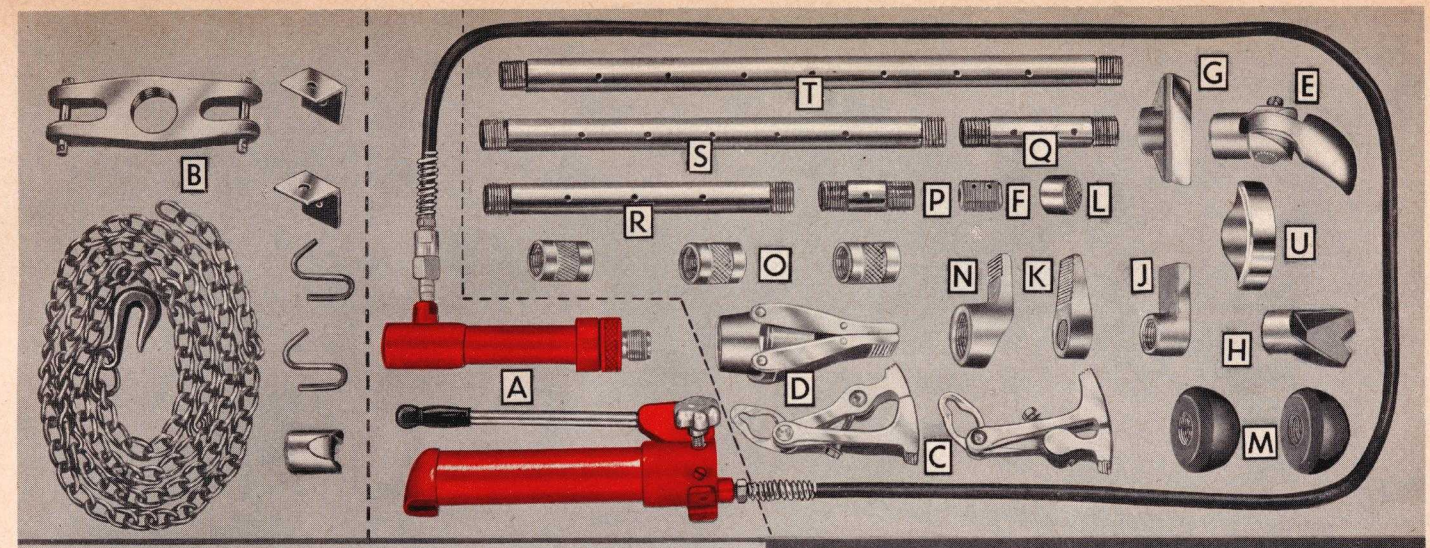
(G) **DHP-8A Door Handle Pliers.** Used to remove clip type retainers on General Motors cars. Slim jaws slip between handle and escutcheon plate to hold clip. Handles offset to provide clearance. 7 15/16" long.

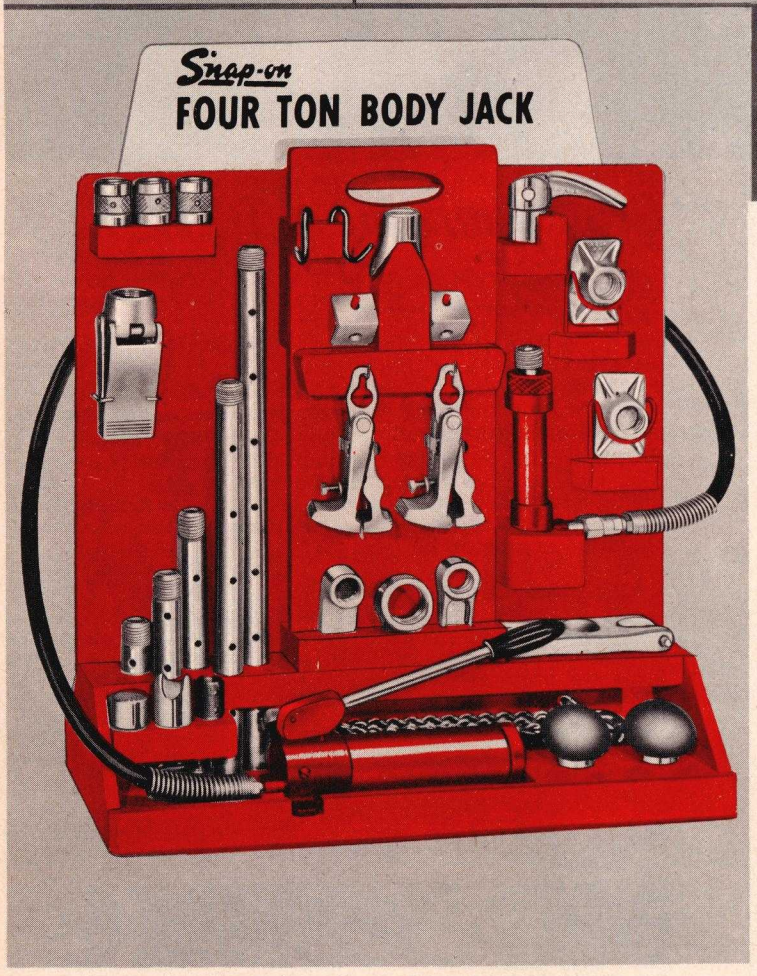
(H) **A-160A Door Handle Tool.** For removal of clip-type retainers on GM and '51 and later Ford, Mercury and Lincoln. Fits both old and new style retainers. Offset handle provides clearance. Clip held by jaws which are forced over clip when tool is inserted.

DOOR PANEL REMOVER

(J) **A-161A Door Panel Remover.** For fast, easy way to remove inside door panel on GM, Ford and Chrysler products. Forked end is offset to provide prying action for nail and spring clip removal. 4" long shaft, plastic handle, overall length 7¾".

▲ **Federal Specs: GGG-W-631A applies to Metal Cutting Shears and Tin Snips indicated by the symbol ▲.**





Snap-on

4-TON BODY JACK DOES AMAZING NUMBER OF JOBS

You can do every type of job with this remarkable 4-Ton Body Jack. You push with the pads and the toes —you pull with the Pull Jack and the fender clamps— you spread with the duck-bill spreader. The Ram is short and slender and can be used in very close working quarters.

The 6 foot rubber hose allows placement of the Ram in the best working position and safe pump operation for the user. Lets you work where you can best observe results.

Everything is here that you need, all attachments, pads, tubes, toes, spreaders, chain, etc.—everything— and all are made of high quality materials to assure long rugged life. You start making money immediately when you put this SNAP-ON 4-Ton Body Jack to work for you.

STAND KEEPS ALL JACK PARTS HANDY!

This handsome, sturdy Storage Stand eliminates the chore of groping in a tool box for body jack parts and fittings. The smooth-rolling, large casters (not included with Stand, must be ordered separately if desired) make your Body Jack Set much more mobile and easy to transport from job to job, even over rough, uneven floors. Stand is made of wood, built to withstand hard usage. Has various hooks and platforms to hold all parts of the BJ-4 Set. Parts are easily and quickly removed, missing parts are spotted immediately.

BJ-4-SA Complete 4-Ton Jack Set consisting of all 35 parts listed below, on ASP-4A Storage Stand—**but without casters.**

JC-12-1 Set of four casters for ASP-4A Storage Stand—must be ordered separately if desired.

BJ-4 4-Ton Body Jack Set consisting of 35 parts only, without Storage Stand.

DESCRIPTION OF INDIVIDUAL BODY JACK PARTS

Ⓐ **BJ-4-2X Ram, Pump and Hose Assembly.** Consisting of the following four units:

BJ-4-1 Ram. Overall length is 8⅞" and it has a 4" maximum stroke. Free flowing open channels permit rapid flow of oil and smooth, powerful operation.

BJ-4-2A Pump. An overload safety device in mechanism protects parts and equipment while building up a 4-ton pressure on the work.

BJ-4-3B Hose. ¼" I.D. special oil resistant rubber with imbedded steel mesh reinforcement.

BJ-4-4 Hose Connector. Permits removal of tube without loss of fluid from Ram.

Ⓑ **BJ-4-5 Pull Jack.** Consisting of the following nine units:

BJ-4-5-1 Puller Cap
BJ-4-5-2 Yoke
BJ-4-5-3 Chain
BJ-4-5-4 S-Hook (2 required),
BJ-4-5-5 Angle Iron (2 required).
BJ-4-5-6 Yoke Pin (2 required).

Ⓒ **BJ-4-6 Fender Clamp,** has milled jaws to grip onto metal and fender bead. Has flexible linkage (2 required).

Ⓓ **BJ-4-7 Spreader,** screws right onto ram. 3" spread. Gets into deep sections, replaces prying and hammering.

Ⓔ **BJ-4-8 Adjustable Body Spoon** is quickly attached, blade may be adjusted to many working positions as work progresses.

Ⓕ **BJ-4-9 Internal Connector** for attaching pads to base of Ram.

Ⓖ **BJ-4-10 Base,** has flat pressure surface.

Ⓗ **BJ-4-11 "V" Base,** permits pressing against protruding bolts and similar objects.

Ⓙ **BJ-4-12 Flat Spreader Toe,** to work in recesses.

Ⓚ **BJ-4-13 Tapered Spreader Toe.** Has a serrated face. Grips against the surface of the work to reduce possibility of slipping.

Ⓛ **BJ-4-14 Pad** with serrated face to prevent slipping, use at end of extension tubes.

Ⓜ **BJ-4-15 Rubber Pad** avoid damage to metal parts, protect finish (2 required).

Ⓝ **BJ-4-16 Flat Spreader Toe,** with serrated face.

Ⓞ **BJ-4-17 Tube Coupling** (3 are required).

Extension Tubes. These tubes are made of seamless steel tubing with free turning threads at both ends. Have special safety step at end of thread to prevent burring.

Ⓟ **BJ-4-18 Extension Tube,** 3" long.

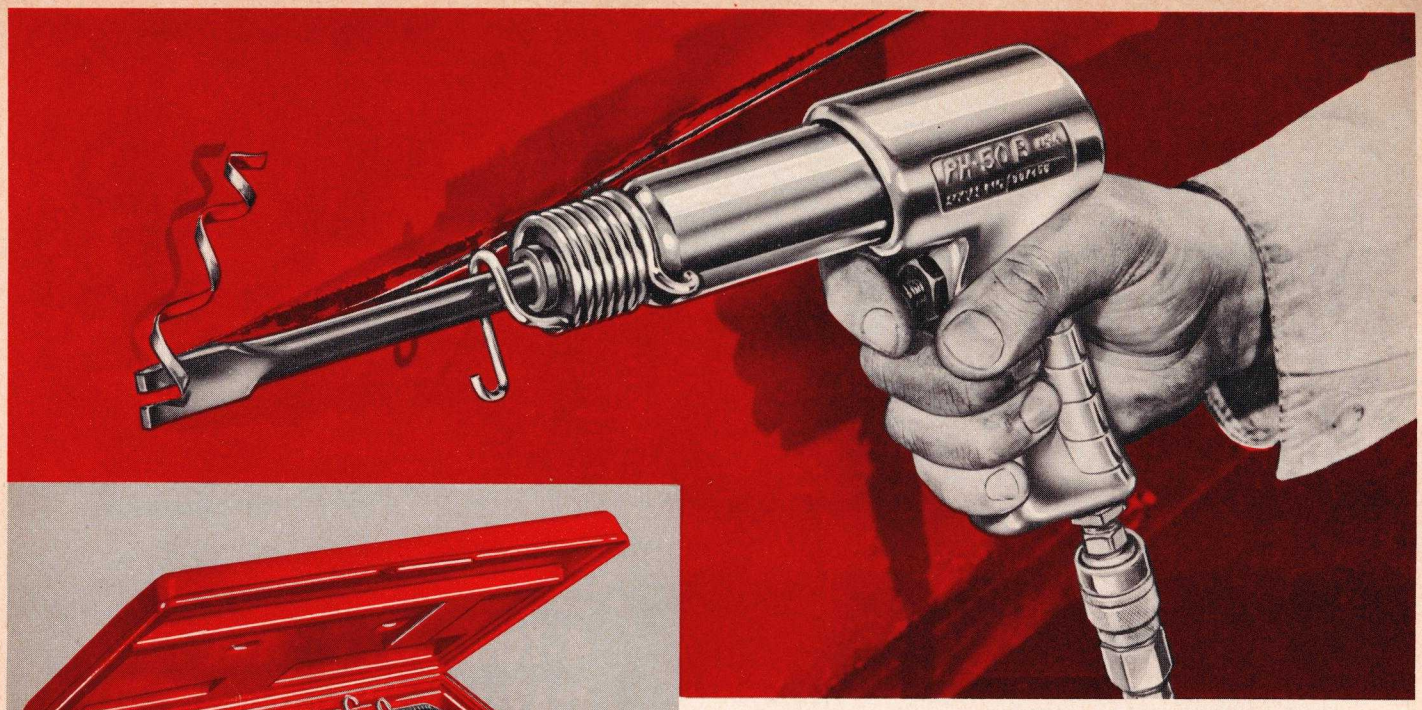
Ⓠ **BJ-4-19 Extesnion Tube,** 5" long.

Ⓡ **BJ-4-20 Extension Tube,** 10" long.

Ⓢ **BJ-4-21 Extension Tube,** 15" long.

Ⓣ **BJ-4-22 Extension Tube,** 20" long.

Ⓤ **BJ-4-23 Ram Base** or pad with a curved 4" radius. Very useful in many places.





PH-505C
AIR HAMMER SET

Grab a mittful of POWER!

New Snap-on® Air Hammer

Just press the trigger and watch this powerful brute break loose a tie rod, bite into a panel, slice through a shackle bolt in no time at all. Power? This light weight air hammer's got it. Wallop for wallop, nothing on the market tops it—and the ordinary hammers don't even come close.

This powerful, heavy duty pneumatic hammer is a rugged tool, built to give you all the power you need to do those tough jobs faster and easier . . . and there's a tool bit designed to handle all types of cutting, shearing, splitting, punching and scraping jobs.

blow for blow it's better

90–125 psi operating range ■ sleek, high polished chrome steel barrel. Handle is cast aluminum with a fine satin polish ■ long lasting hardened steel piston ■ honed cylinder walls for top efficiency ■ long wearing spring steel flapper valve — many units have plastic or fiber valve ■ air line connection threads into a replaceable bushing — *not* directly into aluminum handle ■ quick change Universal spring handles all the tools with large work heads. Beehive safety spring available for smaller diameter tools ■ complete range of top quality chisels, cutters, punches and prying tools at prices that invite comparison.

AIR HAMMER AND AIR HAMMER SETS

PH-50B Pneumatic Hammer. Shown above and described at right. Equipped with universal retaining spring and beehive retaining spring.

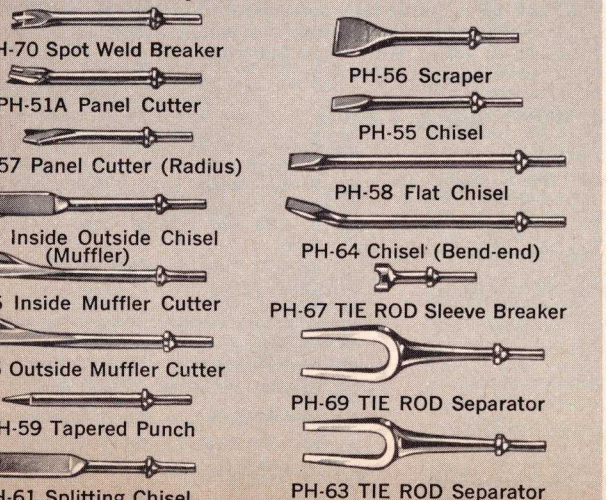
PH-505C Hammer Set. Consists of the PH-50B Hammer and four tool bits. PH-51A, PH-55, PH-57 and PH-60 in SPP-94 molded plastic case. An excellent set for body and maintenance work, muffler shop and sheet metal shops, etc. Case has pocket for additional bits.

PH-551 Tool Bit Set. For exhaust system work. Consists of five bits, PH-58, PH-60, PH-61, PH-65 and PH-66.

PH-552 Tool Bit Set. For automotive front end work. Consists of five bits, PH-58, PH-63, PH-64, PH-67 and PH-69.

PH-553 Set. Consists of the PH-50B Hammer with SPP-94 molded plastic case and all tool bits listed below except PH-63 and PH-69.

tools fit any standard hammer:



ACCESSORY TOOL BITS

PH-51A Panel Cutter. Edges and trims sheet metal without stretching or distortion. Leaves a smooth, clean edge that eliminates much filing and grinding.

PH-55 Flat Chisel. 7″ long, ⅝″ blade width. Cuts frame members, bolts, tees and angles. Useful for splitting nuts and beveling steel plate.

PH-56 Scraper. 6¾″ long, 1½″ wide flat blade. Removes grease, mud and undercoating, etc.

PH-57 Panel Cutter. (radius) 5¾″ long with "V" shaped cutter head. For slicing bushings, cylinder sleeves, or splitting muffler pipes. Edges and trims sheet metal.

PH-58 Flat Chisel. 9¾″ long, ⅝″ blade width. Similar to the PH-55, but its longer length is needed on many jobs.

PH-59 Tapered Punch. 7″ long, tapers to a ⅛″ point.

PH-60 Inside-Outside Chisel. For peeling tail pipe from muffler or muffler from exhaust pipe without damage to inner section.

PH-61 Slitting Chisel. 7″ long, curved 1″ wide blade. Cuts tail pipes, exhaust pipes, etc., when muffler is still usable.

PH-63 Ball Joint Separator. 8⅛″ long, has a 1 3/16″ spread between forks, For use on most cars, also works on larger size tie rods.

PH-64 Bent End Chisel. 9¾″ long. Used for shearing off rivets holding ball joints and front end fixtures. Reaches between flanges.

PH-65 Outside Muffler Cutter. 8¼″ long. For cutting or peeling back the muffler from the tail pipe, without damage to the pipe itself.

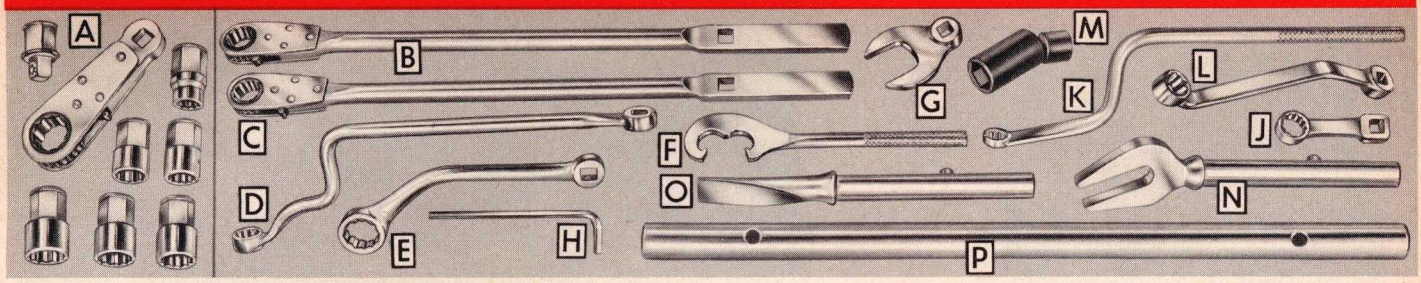
PH-66 Inside Muffler Cutter. 8¼″ long. Saves the muffler if tail pipe is bad. Cut pipe off at the muffler, use PH-66 to cut out the part left in the muffler without damaging muffler.

PH-67 Tie Rod Sleeve Breaker. 3⅞″ long. Round groove in head fits against tie rod end and arm joint and vibrates them apart.

PH-69 Ball Joint Separator. 8½″ long. 1″ spread between the forks enables its use on the larger ball joints.

PH-70 Spot Weld Breaker. 6½″ long. Blade is 9/16″ wide and has a "V" cutter notch and channel.

FRONT END ALIGNMENT WRENCHES



Ⓐ **WA-308 Caster-Camber Adjusting Wrench Set.** Consists of WA-28 Torque Adaptor Wrench, 6 special hex drive sockets and an adaptor which adapts the wrench to any ½" square drive socket.

WA-308-B Set. Above set in KRA-40 metal box.

WA-28 Torque Adaptor Wrench 5" long with a ½" square drive opening in the handle and a ⅞" double hex reversible ratcheting "Boxocket." When used with a SNAP-ON TQ-150 Torqometer it provides an accurate method of adjusting without overstressing.

WA-28-8 Adaptor. ⅞" hex end fits the WA-28 Wrench, drive end fits any ½" square drive socket.

Double Hex Sockets

WA-28-20	5/8"	**WA-28-26**	13/16"
WA-28-22	11/16"	**WA-28-28**	7/8"
WA-28-24	3/4"	**WA-28-30**	15/16"

KRA-40 Metal Box. Not shown but available as optional container for WA-308 Set. Size: 9½" x 5½" x 2".

Ⓑ **S-9837 Torque Adaptor.** For 1961–63 Buick Special and Olds F-85 caster-camber adjustments. 19¾" long, 11/16" double hex opening. Use with a TQ-150 Torqometer. Set Torqometer dial at one-half desired torque for correct tension.

Ⓒ **S-9839 Torque Adaptor.** 16⅞" long with ⅞" double hex reversible ratcheting "Boxocket" at one end and a ½" square drive opening located 12" away at other end. Use with a SNAP-ON Torqometer. Set Torqometer dial at one-half desired torque for correct tension. The 6 special sockets in the WA-308 Set at left can be used with this wrench.

Ⓓ **S-9545 Torque Adaptor.** For caster-camber adjustments on Chevy (except 1959) with 348 cu. in. engine. Also other Chevy 1955–67 and 1964–67 Chevelle, Pontiac Tempest, Buick Special and Olds 85. 14¼" long, 11/16" double hex opening and ½" square drive opening to take TQ-150 Torqometer. Set Torqometer dial at one-half desired torque for correct tension.

Ⓔ **S-8366 Torque Adaptor.** For lower control arm attaching bolt on 1962 and older Rambler. 8¾" long, 15/16" double hex opening. Use with a TQ-150 Torqometer. Set Torqometer dial at ⅔ the desired torque.

Ⓕ **Tie Rod Adjusting Tools** for turning tie rod sleeve to adjust toe-in. Designed with 2-position jaw and double hook. Have knurled handle to provide secure grip.
WA-10 For passenger cars.
WA-11 For larger cars and trucks.

Ⓖ **Crowfoot Caster-Camber Wrenches.** Heads only ¼" thick. Have ½" square drive. The following five sizes are available.

S-8661A 13/16" **S-8272** 1¼" **S-8662A** 15/16"
S-8175 1⅜" **S-9156** 1 13/32"

Ⓗ **AWL-8 Caster-Camber Adjustment Wrench.** For the ¼" hex head set screw adjustment on most GM cars. Hardened for long service. 5¼" length to bend.

Ⓙ **S-6206 Caster-Camber Adjustment Wrench.** For use on the Chevrolet Corvair, Van, Pick-Up and Greenbrier as well as the Pontiac Tempest. 3" long with 11/16" double hex "Boxocket" at one end and ½" square drive on other. Has chrome plated finish.

Ⓚ **S-6203 Wrench.** For 1960–67 Chevy Corvair caster-camber adjusting. 10½" long, 9/16" double hex opening.

Ⓛ **S-8686A Caster-Camber Boxocket.** ¾" Double Hex. For 1957–64 Ford, 1957–64 Mercury and 1960 Edsel. Has double bend to provide clearance. Use with a TQ-150 "Torqometer." Set Torqometer dial at one-half of the desired torque.

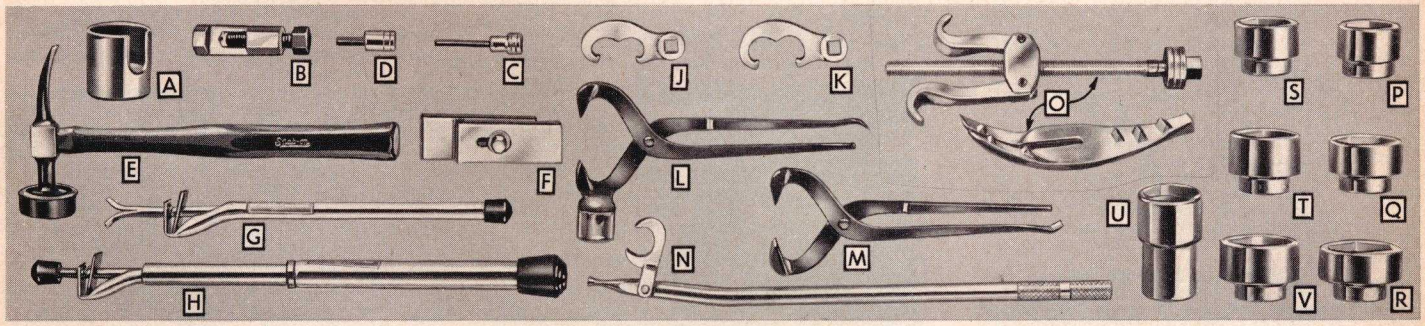
Ⓜ **SIMB-280A ⅞" Ball-Type Flexocket.** For caster-camber adjustment on all 1961–64 Olds except the F-85. 3 5/16" long with ½" square drive.

A-226 Grease Bar and Caster-Camber Set. Consists of handle and two end pieces. Versatile tool for variety of prying and bending operations. Parts lock solidly, can't be separated accidentally. Overall length is 32½".

Ⓝ **A-226-1 End Piece.** Has 5/8" opening to pry shackles. 10¼" long.

Ⓞ **A-226-2 End Piece.** Blade tapers to 1/16" and is 1¼" wide.

Ⓟ **24A Tubular Handle.** High grade seamless steel tubing, 24" long overall. Has two openings for locking buttons of end pieces.



Ⓐ **WA-14A Tie Rod End Socket.** Fits nearly all cars and some trucks. Use with any ½" drive handle or impact wrench. Chrome plated. "U" opening 1⅜" x ¾", I.D. 1 15/16". 2¼" long.

Ⓑ **S-8679B Front End Suspension Tool** for use on Ford and Mercury, Lincoln, Dodge, Plymouth and DeSotos. It is used when replacing spindles, ball joints, coil springs and when replacing or rebushing the upper control arms.

Ⓒ **FAL-8 ¼" Caster-Camber Hex Wrench.**

Ⓓ **FA-10B 5/16" Caster-Camber Hex Wrench.**

Ⓔ **TR-250 Wheel Cover Tool.** Specially shaped pry end for easy removal of wheel cover. Rubber boot on hammer end prevents damage during replacement. Handle is 13" long, head is 5¾" long.

TR-250-2 Rubber Boot for above tool.

Ⓕ **S-8697 Serration Breaker.** Needed to break loose the serrations on the upper control arm shaft from the frame when making caster-camber adjustments on the Ford Fairlane. The adjustable length of this tool adapts it to varying job requirements and eliminates the need for a set of different size tools.

Ⓖ **GA-36A Brake Pedal Jack.** A light weight telescoping jack that adjusts to any position from 16" to 20". Lever action grips tighter as more pressure is applied. Has GA-37A-1 rubber tip on one end and metal fork on the other.

Ⓗ **GA-73B Brake Bleeder Pedal Jack.** The extension shaft is spring-loaded to exert continuous pressure even when pedal position changes. Adjusts from 15⅛" minimum to 26¼" maximum. Lever action grips tight as pressure is applied.
GA-73-1 Large Rubber Tip.
GA-37A-1 Small Rubber Tip.

Ⓙ **WA-13 Toe-In Adjusting Tool.** Will fit most passenger cars. The two-position hooks make fast work of turning tie rod sleeve. ½" square opening will accept any ½" handle for turning.

Ⓚ **WA-12 Toe-In Adjusting Tool.** Same as above except for larger cars and trucks.

Ⓛ **GCP-11 Grease and Hub Cap Tool.** One handle has a bent edge that fits behind the hub cap to pry it loose. Tapered jaws fit behind the ridge of the dust cap for easy removal of the tightest cap. This tool has a plastic hammer for replacement of dust cap. Overall length is 10⅝".

Ⓜ **GCP-10 Grease and Hub Cap Tool.** Same as GCP-11 except it does not have hammer.

Ⓝ **WA-171A Caster-Camber Adjusting Hook** for use on Ford Galaxie and Mercury. Hook fits over upper suspension arm inner shaft and the tapered end into hole in frame provided for this purpose. After loosening the shaft bolts both caster and camber are adjusted by moving the shaft in or out as needed.

Ⓞ **GA-258 Coil Spring Compressor Set.** Holds a coil spring in its compressed state to permit easy removal. This set is especially useful in front end work, because it will allow spring to be held at a desired tension while removing other parts.

BALL JOINT SOCKETS

Use with any ¾" Square Drive Handle

Ⓟ **S-8179** 1 9/16" hex for '61–'62 Buick Special and Olds F-85.

Ⓠ **S-9835** 1 7/16" hex for '61–'62 Buick upper joints.

Ⓡ **S-9836A** 2 1/16" hex for '61–'62 Buick lower joints.

Ⓢ **S-6202** 1⅝" hex for Corvair upper and lower joints.

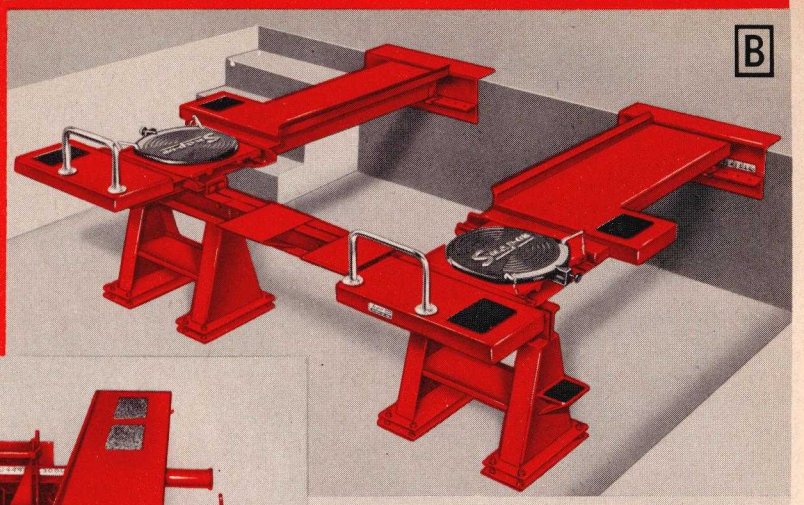
Ⓣ **S-9479** Socket for DeSoto and Chrysler.

Ⓤ **S-9365A** Socket for Dodge and Plymouth.

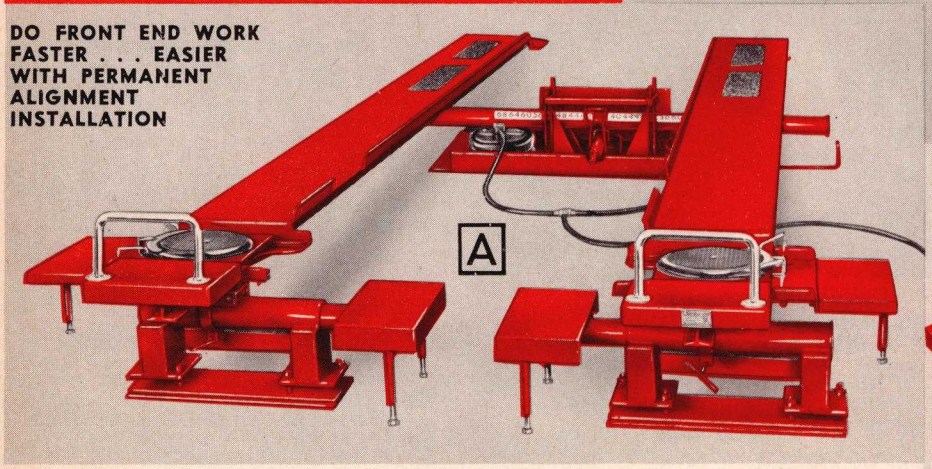
Ⓥ **S-6302** Socket for Valiant.

BIG PROFITS CAN BE YOURS WITH

Snap-on® WHEEL ALIGNMENT EQUIPMENT



DO FRONT END WORK FASTER . . . EASIER WITH PERMANENT ALIGNMENT INSTALLATION





Alert businessmen can cash in NOW, on the exciting profit opportunities in Front End Alignment — The Fastest Growing Service. Approximately 80 Million cars on the road today provide tremendous profit potential, as state inspections have proven that 7 out of every 10 cars need alignment.

Ⓐ AIR LIFT DRIVE-ON RAMP

Turntables are NOT included

WA-201B Drive-on Ramp. A permanent but easily installed unit which raises to a level position of 17″ high. Lifting capacity is 6,000 lbs. Tracks adjust in width to handle various vehicles from compact cars to light trucks. Jack stands accept air jacks to raise front end from front or rear of wheel center. Foot stands on either side of ramp make over-the-fender adjustments easy. All stands have adjustable legs, and stands are removable for easy access to underside of vehicles. Control panel is equipped with an air gauge and air regulator. The air control valve has a "hold" position, to lock air in the bellows. The ramp is also equipped with a "safety leg" which automatically engages when the ramp is raised.
This ramp can handle a large volume of alignment jobs, with speed and efficiency. It is well suited for the large shop and provides a very professional touch to your Alignment business.

FEATURES AND SPECIFICATIONS

- **Accepts Large or Small Turntables**
- **Remote control Air Gauge and Regulator**
- **Raises to 17″ Level Position**
- **Built Rugged and Durable**
- **Convenient Foot Stands**
- **Track Width is Adjustable**
- **Has Adjustable Stands for Jacks**

Length: 17 feet 2¼ inches.
Raised Height: 17 inches.
Width: Extended — 68″, Closed — 40″.
Runway Width: 14 inches.
Lifting Capacity: 6,000 pounds.
Air pressure required: 75–125 p.s.i.

Drive-on Ramp Alignment Sets

2067A-WA-SA Ramp Alignment Set. Includes:
2064A-WA-SA Alignment Set. Page 135.
WA-210B Air Lift Drive-on Ramp. Above.

2068A-WA-SA Ramp Alignment Set. Includes:
2064A-WA-SA Alignment Set. Page 135.
WB-303A Wheel Balancing Set. Page 138.
WA-201B Air Lift Drive-on Ramp. Above.

Ⓑ PIT-TYPE RAMP

Turntables are NOT included

WA-73 Pit-Type Ramp. Prefer a pit type installation? This Ramp is ideal — Easily adapts to existing pits, or you can construct a new highly efficient pit from our available plans which include electrical outlet locations, air lines, guard rails, steps or ladder details, etc. The ramp is excellent for high volume work.
Extra long for easier torsion bar adjustments. Adjustable tracks handle various widths from compacts to light trucks. Jack pads provide mounts for your air jacks and are reversible for raising front ends from front or rear of wheel centers. Both jack pads and lightweight center beam are removable to permit full access to underside of vehicles. Sturdy side platforms with non-slip treads permit easy over-the-fender adjustments. Accepts both large and small turntables. Highly efficient and versatile, this pit ramp is a real profit builder and can turn your alignment business into a full time operation.

FEATURES AND SPECIFICATIONS

- **Accepts Large or Small Turntables.**
- **Track Width Adjusts on Rollers.**
- **The Runway is Reinforced.**
- **Removable Jack Pads Provided.**
- **Non-Slip Side Platforms.**
- **Has Removable Center Beam.**
- **Provides Ample Working Space.**
- **Adapts to Existing Pits.**

Length: 6 feet 2¾ inches.
Adjustable Height from Pit Floor: 27″–33″.
Width: Extended — 73″, Closed — 40″.
Width of Runway: 14 inches.
Weight Capacity: Vehicles up to 6,000 lbs.

Pit-Type Ramp Alignment Set

2070-WA-SA Pit-Type Alignment Set. Includes:
2064A-WA-SA Alignment Set. Page 135.
WA-73 Pit-Type Ramp. Above.

2069-WA-SA Pit-Type Front End Set. Includes:
2064A-WA-SA Alignment Set. Page 135.
WB-303A Wheel Balancing Set. Page 138.
WA-73 Pit-Type Ramp. Above.

Ⓒ PORTABLE CAR STAND SET

Turntables are NOT included

SNAP-ON Car Stands offer those with limited service space an excellent opportunity to expand their business — through alignment work. Adjustable feet permit leveling even on rough surfaces.
Raise the vehicle with a frame contact hoist (or a jack), position the stands, lower the vehicle onto the turntables atop the stands (turntables not included with stands), and you're ready for business — high profit business. Used with our turntables and alignment tools, the work is checked as accurately as can be done with more expensive, permanent type equipment installations.
Front stands accept our Deluxe and Standard turntables, and have a built-on platform on which to stand while making over-the-fender adjustments. Rear stands have V-shaped tops to prevent car from rolling.

FEATURES AND SPECIFICATIONS

- **Accepts Large or Small Turntables.**
- **Portable . . . Use in Any Shop Location.**
- **Rear Stand "V" Top Prevents Car Roll.**
- **Adjustable Height of about Three inches.**
- **Foot Platforms on Front Stands**
- **Rugged Welded Construction**

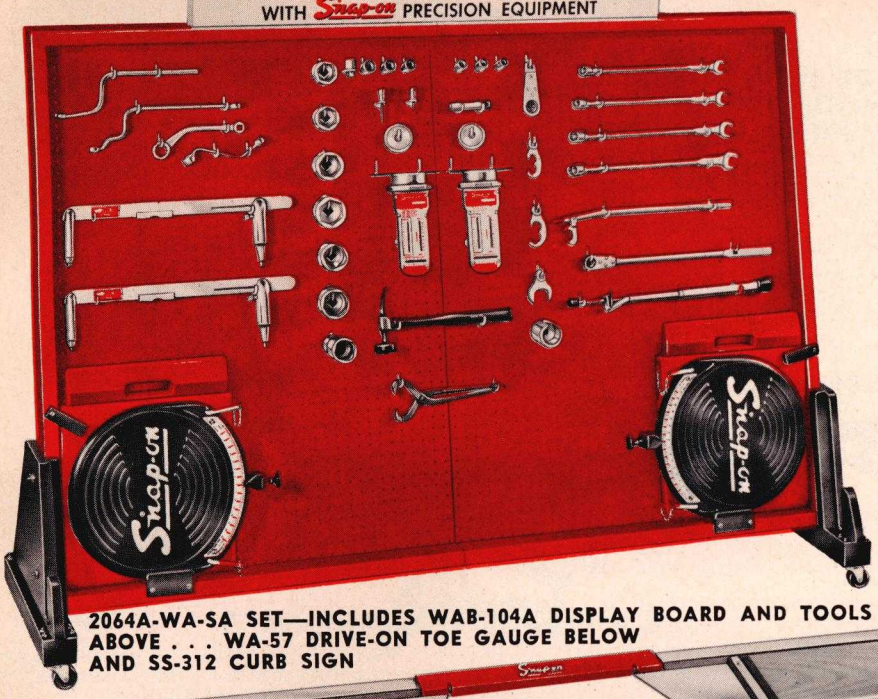
Front Stands: are 35⅝″ long, 12½″ wide with a 14″ x 13″ platform.
Rear Stands: are 20″ long, 12½″ wide.
WA-204B Set of Four Car Stands. (2 front — 2 rear).
WA-130B One Front Car Stand only.
WA-131B One Rear Car Stand only.

Car Stand Alignment Sets

2065A-WA-SA Portable Alignment Set. Includes:
2064A-WA-SA Alignment Set. Page 135.
WA-204B Car Stand Set. Above.

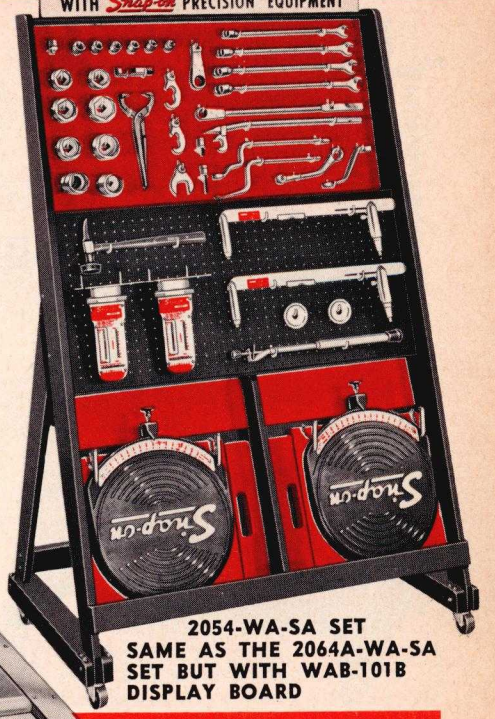
2066A-WA-SA Portable Front End Set. Includes:
2064A-WA-SA Alignment Set. Page 135.
WB-303A Wheel Balancing Set. Page 138.
WA-204B Car Stand Set. Above.

FOR SMOOTHER SAFER DRIVING
LET US ADJUST YOUR
WHEEL ALIGNMENT
WITH Snap-on PRECISION EQUIPMENT



2064A-WA-SA SET—INCLUDES WAB-104A DISPLAY BOARD AND TOOLS ABOVE . . . WA-57 DRIVE-ON TOE GAUGE BELOW AND SS-312 CURB SIGN

FOR SMOOTHER SAFER DRIVING
LET US ADJUST YOUR
WHEEL ALIGNMENT
WITH Snap-on PRECISION EQUIPMENT



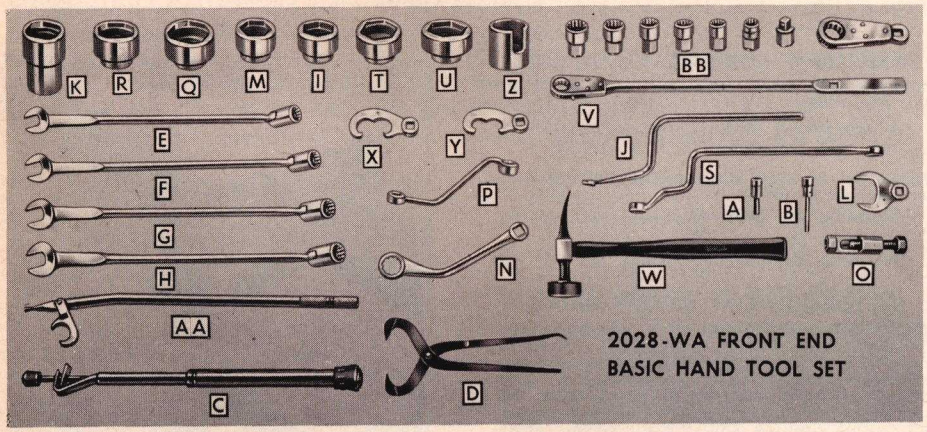
2054-WA-SA SET SAME AS THE 2064A-WA-SA SET BUT WITH WAB-101B DISPLAY BOARD



WA-57 DRIVE-ON TOE GAUGE

2028-WA FRONT END HAND TOOL SET SHOWN BELOW IS INCLUDED IN ABOVE SETS

2028-WA Alignment Hand Tool Set. Essential for fast, efficient front end work. Each tool designed to make adjustments quickly and profitable or to remove and replace worn or damaged parts that caused mis-alignment. Stiff or "frozen" tie rod sleeves are turned easily with tools shaped to grip the sleeves securely so that leverage can be applied. Special sockets and wrenches simplify tie rod end replacement, ball joint work, caster and camber adjustments, etc.



2028-WA FRONT END BASIC HAND TOOL SET



SS-312 CURB SIGN

Stock No.	Description	Stock No.	Description
AFA-10B	5/16" Hex Head Driver	OS-8679B	Ball Joint Susp. Tool
BFAL-8	1/4" Hex Head Driver	PS-8686A	3/4" Caster-Camber Wrench
CGA-73B	Brake Pedal Jack	QS-9365A	Ball Joint Susp. Socket
DGCP-10	Grease Cap Tool	RS-9479	Ball Joint Susp. Socket
EOH-22	11/16" Comb. Flex. Wrench	SS-9545	11/16" Hex Torque Adapt.
FOH-24	3/4" Comb. Flex. Wr.	TS-9835	Ball Joint Susp. Socket
GOH-26	13/16" Comb. Flex. Wrench	US-9836A	Ball Joint Susp. Socket
HOH-28	7/8" Comb. Flex. Wrench	VS-9837	11/16" Hex Torque Adapt.
IS-6202	Corvair Ball Joint Socket	WTR-250	Wheel Cover Tool
JS-6203	Chevy-Corvair Wrench	XWA-12	Tie Rod Adjusting Tool
KS-6302	Valiant Ball Joint Socket	YWA-13	Tie Rod Adjusting Tool
LS-8175	1 3/8" Crowfoot Wrench	ZWA-14A	Tie Rod End Socket
MS-8179	Ball Joint Susp. Socket	AAWA-171A	Ford Caster-Camber Tool
NS-8366	15/16" Hex. Torque Adpt.	BBWA-308	Caster-Camber Torque Set

HEAVY DUTY CURB SIGN

SS-312 Curb Sign. Big — 64" max., height, 37" wide, four swinging panels each 32" x 12". Base is 50" long to provide ample stability in strong winds.

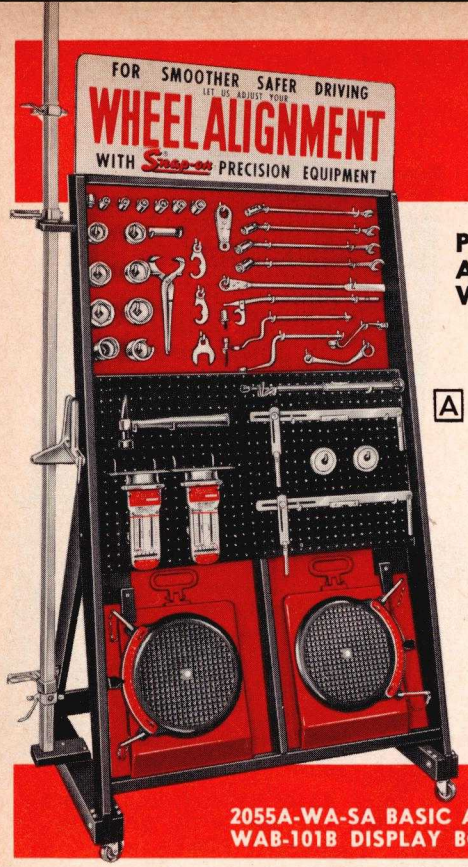
Attractive. Provides maximum visibility to advertise your services. Bright red, white and black baked-on enamel panels make this a real attention-getter. The four panels swing on spring loaded steel rods . . . one or more can be removed and the frame telescoped down to a lower height.

UNIVERSAL ALIGNMENT SETS

2064A-WA-SA DeLuxe Universal Alignment Set. Includes:

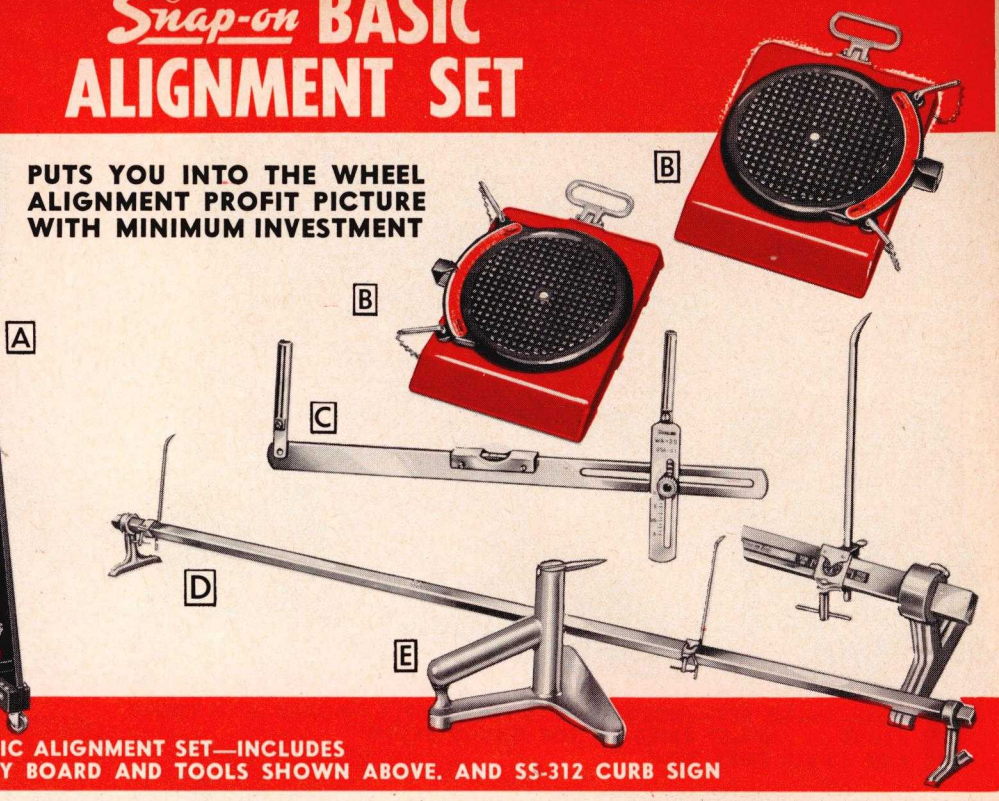
2028-WA	Alignment Hand Tool Set.
WA-57	Master Toe Gauge.
WA-64	Deluxe Turntable Set.
WA-602E	Magnetic Gauge Set.
WA-78	Gauge Adaptors (2).
WAC-2B	Torsion Gauge Set.
SS-312	Curb Sign.
WAB-104A	Merchandising Display Stand: 64 3/4" high, 74 3/4" wide and 20" front to back.

2054-WA-SA Universal Alignment Set. Same contents as above but with WAB-101B Compact Merchandising Display Stand, 77 3/4" high, 41" wide and 26 1/2" front to back.



Snap-on BASIC ALIGNMENT SET

PUTS YOU INTO THE WHEEL ALIGNMENT PROFIT PICTURE WITH MINIMUM INVESTMENT



2055A-WA-SA BASIC ALIGNMENT SET—INCLUDES WAB-101B DISPLAY BOARD AND TOOLS SHOWN ABOVE. AND SS-312 CURB SIGN

Alignment Is A Most Profitable Operation

Now is the time to beat competition with the fastest growing service in the automotive industry and boost your own shop profits to new heights. The need for front end work is tremendous and offers the easiest and most profitable additional service that can supplement your present operations.

BASIC ALIGNMENT SET — LOW COST EFFICIENCY

This set gives you all of the hand tools included in the 2028-WA Set, page 135, together with a Toe-in Trammel Bar, Tire Scriber, Set of two Turntables and a set of two Torsion-Aire Height Gauges. The Turntables are 3″ smaller in diameter than those in the sets listed on pages 134–135 and their load capacity permits use under vehicles with front end weight up to 5,000 lbs. They can be used on the floor or on the car stands or ramps shown on page 134.

Ⓐ 2055A-WA-SA SET INCLUDES

2028-WA	**Hand Tool Set** (page 135).
SS-312	**Heavy Duty Four Panel Curb Sign**
WA-20	**Torsion-Aire Height Gauge (2 incl.)**
WA-62B	**Turntable Set**
WA-78	**Gauge Adaptor (2 included).**
WA-151A	**Toe-in Trammel Bar**
WA-155	**Tire Scriber**
WA-602E	**Set of Two Magnetic Gauges**
WAB-101B	**Merchandising Display Stand.** 77¾″ high, 41″ wide and 26½″ front to back.

Ⓑ BALL BEARING TURNTABLE SET

WA-62B Turntable Set. Consists of a right-hand and a left-hand turntable. These units are built to handle cars and light trucks with front end weights up to 5,000 lbs. The ball bearing free-floating waffle top plates are eleven inches in diameter. Beveled edge of the plate helps to overcome any tendency to slide away from the wheel if car is driven onto the turntable and pins hold the plate in zero position while the vehicle is driven on or lowered on. Pointer sets close to the gauge and gauge markings are large and clear to give easily seen, accurate readings. Base and top plate are durable cast iron.

Ⓓ TOE-IN TRAMMEL BAR

WA-151A Trammel Bar. 7 foot long 1⅜″ square box type extruded aluminum bar is mounted on adjustable cast aluminum legs. Two sliding pointers clamp onto the bar and lock with large "T" screws. These pointers contact the scribed tire mark and can be adjusted to approximately hub height for greatest accuracy. Gauge has an indicator for direct reading ¾″ both ways from center of scale.

ALIGNMENT AND BALANCING SETS

2056A-WA-SA Basic Alignment and Car Stand Set. Includes:

2055A-WA-SA Basic Alignment Set. Above.
WA-204B Car Stand Set. Page 134.

2057A-WA-SA Basic Alignment and Wheel Balancing Set. Includes:

2055A-WA-SA Basic Alignment Set. Above.
WA-204B Car Stand Set. Page 134.
WB-303A Balancing Set. Page 138.

Ⓒ TORSION-AIRE HEIGHT GAUGE

WA-20 Magnetic Torsion Bar Height Gauge. Needed for all Chrysler and GMC products with torsion-aire suspension and a must for 1962 and later models because the small diameter of the magnets allows them to fit through the ½″ width of the contact point at the inner end of the lower control arm. Unit consists of an 18″ steel bar with magnet arm at each end — one arm is hinged to the "level" bar and the adjustable height arm may be slid to the proper position on the level bar and clamped at the correct height by means of a knurled screw. A bubble level, mounted on the steel bar indicates when the height is properly adjusted. Complete instructions included. Tool is chrome plated.

Ⓔ TIRE SCRIBER

WA-155 Tire Scriber. Used to scribe a fine line around the circumference of the tires prior to checking toe-in. Chrome plated, heavy cast iron base aids in holding scriber in position while the wheel is revolved against the spring loaded needle arm. Spring holds the needle point against the tire even though it may be uneven or rough.



WALL BRACKET AND SIGNS

SS-313 Wall Bracket. Accepts any of three different signs (available individually). This is a strut-type bracket, 28″ long, with a black enamel finish. Two cadmium plated "S" hooks are included for mounting a sign. Holes are provided in the bracket to facilitate mounting it to a building, pole, etc. There are three signs for the above SS-313 Bracket. Each is 24″ wide, 18″ high, made of 20-gauge steel, and is two-color.

SS-313 Wall Bracket Only.
SS-314 Wheel Balancing Sign Only.
SS-315 Wheel Alignment Sign Only.
SS-316 Tune-up Sign only.

CASH IN ON PROFITABLE ALIGNMENT WORK



WITH Snap-on EQUIPMENT

Ⓐ MAGNETIC CASTER-CAMBER SET

WA-602E Magnetic Gauge Set. Consists of two of the gauges shown above. Practically every user prefers the working convenience and time saved when two gauges are used on aligning jobs. Any mechanic can make accurate readings by following the brief instructions furnished. Accurate and rugged, too, the gauges are built for performance and durability . . . let you turn out jobs quickly for maximum profit. Here are reasons why SNAP-ON Magnetic Gauges are preferred:

Alnico Magnets — Permanent and powerful. Grip hub flanges tightly. Machined edges remove burrs and rough edges from flanges for greater accuracy.

Centering Plunger — Fits into spindle center hole to position gauge properly, adding to accuracy.

Octagon Housing — Prevents the gauge from rolling to avoid accidental damage.

Precision Ground Vials — Permit smoother bubble travel for greater accuracy. Curved so bubble sets quickly. Recessed and cushioned to prevent breakage.

Etched Markings — Cannot rub off. Evenly spaced and wide apart for accuracy.

Aluminum Housing — Thick and rugged, yet light in weight. Built to last.

Caster Scale Adjuster — Deep knurled knob for easy turning, even with greasy hands.

Caster Directions — Printed right on the gauge. Simple and easy to follow.

Camber Readings — Easy too! Just level the gauge and read the camber dial.

Leveling Vial — For caster correction and king pin angle is at the end of the gauge. Easily seen, even on cars with low fenders.

King Pin Angle — Directions are easy, and are printed right on the gauge.

Note: Use a GA-73B Brake Pedal Jack when checking Caster and King Pin Angle, Brake *must* be kept locked.

WA-60E One Magnetic Gauge. Above gauge available on special order with French, German, Italian or Spanish directions.

Ⓔ **WA-78 Adaptor.** For use on aluminum or magnesium hubs, unmachined or small diameter hubs, 2⅝″ diam., ½″ thick, center hole fits over spindle.

Ⓑ BALL BEARING TURNTABLE SET

WA-64 Deluxe Heavy Duty Turntable Set. Designed for maximum speed and efficiency. This set consists of one right hand and one left hand turntable. Plates lock at zero while the car is positioned and lock automatically at the 20-degree angles. This automatic locking feature is a real time saver, as it eliminates the need to hold the wheel by hand while trying to read the gauge. It also allows the operator to check turning radius, unassisted.

Rugged and durable, this set can handle all cars, medium sized trucks and buses with front end weights up to 8,000 lbs. Full floating action covered by full width 14″ diameter top plates assures smooth, easy turning. Beveled edges on top plates and beveled aprons make it easy to drive onto, and helps overcome any tendency to slide forward away from the wheels.

Divisions on the gauge are large and clear and the pointer sets close to the gauge to give easily seen, accurate readings. Base and top plates are durable cast iron. Drive-on aprons are detachable to permit turntables to fit the SNAP-ON Air Lift Ramp, Pit-type Ramp and Car Stands.

Truck Wheel Adaptors. Adapt our Magnetic Gauges for use on various truck wheels.

Ⓕ **WA-75A Truck Wheel Adaptor.** 2¼″ O.D. $1\frac{13}{16}$″ I.D., 1¼″ long.

Ⓖ **WA-76A Truck Wheel Adaptor.** 2⅞″ O.D., 2⅜″ I.D., 1¼″ long.

WA-77A Set. One each of above adaptors.

Ⓒ TORSION-AIRE HEIGHT GAUGE SET

WAC-2B Magnetic Torsion-Aire Height Level Gauge Set. Turns torsion bar adjustments into an easy operation. Powerful magnets grip suspension contact points quickly and securely. Precision leveling gauge attached to a 20-inch polished aluminum shaft is easily seen from either side, while adjustments are being made. Long, tapered arms with ½″ diameter magnets are designed to fit the various models of Chrysler and General Motors products with torsion-aire suspension. One magnet holder swivels and the adjustable height magnet holder slides to the correct position. Adjustments are made with the gauges in position. Set consists of two of the gauges.

WAC-1B Individual Torsion-Aire Gauge.

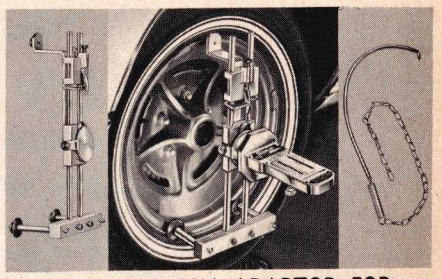
Ⓓ TURNTABLE BRIDGES

WA-56 Set of two Turntable Bridges. Placed between the turntables and the Master Toe Gauge they eliminate the height difference and prevent turntables skidding during drive-on. Each is 4″ x $11\frac{11}{16}$″.

MASTER TOE GAUGES

Ⓗ **WA-57 Master Toe Gauge.** Locates those 7 out of 10 cars which need alignment . . . measures toe-in under actual driving conditions . . . shows amount of adjustment required. Just square the gauge against the front wheels, zero the needle and drive over the unit. If the needle moves off zero the car has an incorrect toe condition and needs alignment. Each mark shows a need for ¼ turn of the tie rod sleeve — no specification to check, no figuring, no guesswork. All this from just one pass over the gauge. Fast and easy? Certainly! But Profitable, too! This shows the need for alignment, and correcting toe-in is just the opener to a complete alignment and balancing job. Rugged and durable, constructed of heavy steel with solid oak thrust boards. Overall length is 85″.

Ⓙ **WA-88 Master Toe Gauge.** Has the same features as the model above but is 96″ long to handle truck toe-in measurements. Thrust boards are aluminum on this model.



UNIVERSAL RIM ADAPTOR FOR MAGNETIC CASTER-CAMBER GAUGE

WA-70 Set of 2 Universal Wheel Rim Adaptors. Extends the use of your SNAP-ON magnetic caster-camber gauge to a wide range of wheels with inaccessible hubs such as new aluminum and magnesium wheels or steel wheels with small centers. The Olds Toronado and Cadillac front drive wheels can be serviced with these adaptors, also foreign and sports cars, wire wheels with spinner retaining nut, light trucks with enclosed caps and all four wheel drive trucks. The unit adjusts to any size wheel . . . legs have tapered end washers that grip behind the rim — and a locking device secures it to the wheel. Three chain-hooks are provided for use where the rim shape will not grip the tapered washers . . . the hooks grip around the tire instead.

Snap-on WHEEL BALANCER

FITS ALL PASSENGER CAR AND LIGHT TRUCK WHEELS

This precise instrument tells you
HOW MUCH WEIGHT TO ADD AND WHERE



ABOVE — the two small cones are used to balance wheels with brake drums attached.

WBK-2A Wheel Balancer Gives You Many Important Money Making Features

SPEED . . . With this SNAP-ON Wheel Balancer you can balance a wheel in three to five minutes.

ACCURACY . . . The sliding beam scale shows you exactly how much weight you should add and the switch-over arm shows just where it should be placed to make wheels run true and smooth.

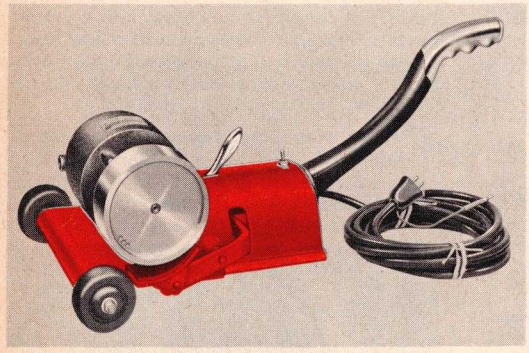
SIMPLICITY . . . Balancing a wheel is as easy as weighing on a common beam scale. . . . Anyone can learn balancing in a matter of minutes with the SNAP-ON Wheel Balancer. An easy-to-read instruction booklet, complete with illustrations, is included free of charge with each unit. No special training is required. A brief session with the instruction booklet will enable anyone to do speedy, accurate and profitable wheel balancing.

LOW COST . . . At the low price of the complete Wheel Balancing Set WB-303A (Balancer, Spinner and Weight Plier) every repair shop or service station can afford this profit-making equipment.

PROFITABLE . . . Will pay for itself and pay you a profit by balancing wheels on 50 cars or less. Your labor charges alone on balancing will come close to paying for the equipment. Income from sale of weights on this many jobs will undoubtedly bring you a net profit from the operation.

Also Enables You To Look For Other Profitable Jobs

Every time you balance a set of wheels you uncover other possible repair jobs. Brake lining work — Scored brake drums — Defective wheel bearings — Bearing repacking — Leaky brake cylinders — Need for new tires — Front end alignment work.



Snap-on WHEEL SPINNER

Helps Sell Your Wheel Balancing Service

WS-1A Wheel Spinner. Performs an important part in the wheel balancing operation and enables you to prove to your customers, in a matter of minutes, that they need a wheel balancing job. It also demonstrates the remarkable improvement after the job is completed. This sturdy, easy to use unit will sell more balancing jobs for you than any expert salesman. A powerful unit, it can turn a car wheel to the equivalent speed of 100 mph or more . . . dramatically showing your customers how an unbalanced wheel can cause tremendous vibration which means quick wear on parts and tires and makes driving hazardous and tiring.

It's easy to use. After raising the wheel, simply roll the Spinner up to the wheel until the driving drum makes contact with the tire. When the wheel reaches a high speed, withdraw the Spinner. To stop the wheel, draw the Spinner up to the wheel, shut switch off and apply Spinner brake. Motor is 1½ h.p., 115 volt D.C. or A.C. up to 60 cycles. Draws 17 amps.

WS-1-220 220 Volt model. Special order only.

No Calculating — No Guess Work

The Sliding Weight Beam tells you how much weight is needed . . . the Switch Arm shows you exactly where to place the weights.

Calibrated weight beam is marked off in ½ ounce increments and has individual weight scales for 13″, 14″, 15″, 16″ and 17″ diam. wheels.

Four plated cones are furnished with the wheel balancer — two small cones for balancing front wheels with the brake drum attached — two large cones for balancing rear wheels without drums.

The cones hold the wheel perfectly centered around the balancer spindle which rotates in ball bearings resting on the plated upright posts. The wheel will turn and come to rest with the heavy area at the bottom.

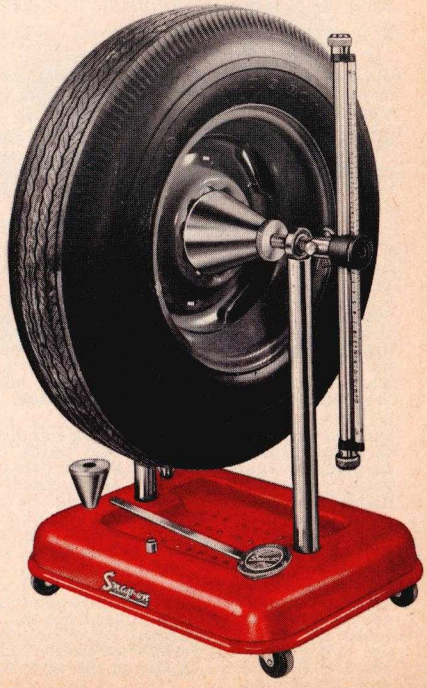
When switching rear wheels to the front attach the wheel to the front wheel drum and balance wheel and drum together.

When the sliding weight shows more than 2 ounces out of balance the weight to be added at each of the two points indicated by the switch arm should be divided and one half placed on the inside of the wheel. Using the SNAP-ON Balancer this is easily done and perfect balance obtained. The SNAP-ON Wheel Balancer is so sensitive that once the wheel is balanced the weight of an ordinary handkerchief will start the wheel in motion.

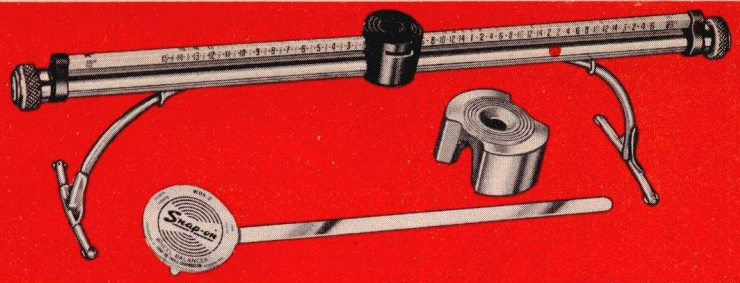
The heavy steel base provides stability for the operation and holds your wheel weights and wheel weight pliers. Four rubber wheel swivel casters permit the Balancer to be rolled easily.

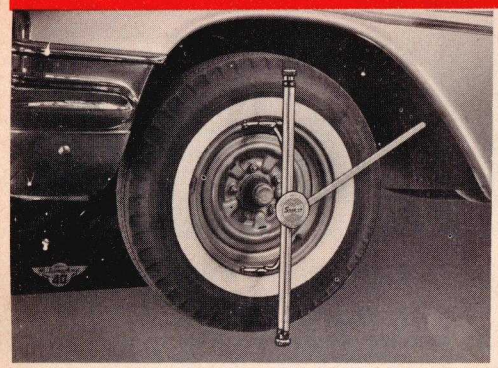
WB-303A Wheel Balancing Set. Includes the WBK-2A Balancer, WS-1A Spinner and the WWP-11 Wheel Weight Plier.

BELOW — the two large cones are used as shown to balance wheels without brake drums.



Snap-on
ON THE CAR OR TRUCK
WHEEL BALANCER

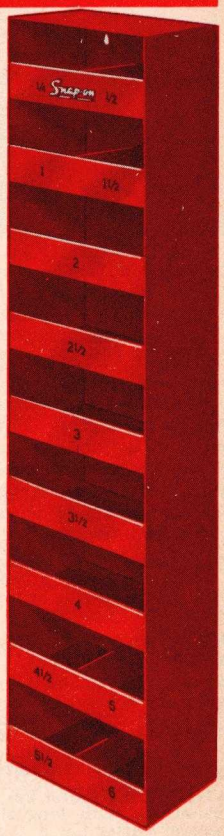




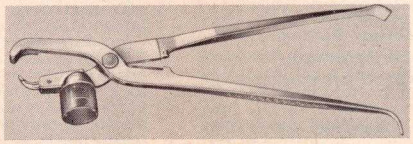
WB-59A Wheel Balancer. Here is a sturdy, dependable wheel balancer for balancing wheels on the car or truck under the conditions in which they are run. It balances the entire rotating assembly of wheel, tire, hub, and brake drum.

This wheel balancer fits all rims from 13″ to 22″ diameter and enables the operator to predetermine the amount of unbalance and to point out the exact location where the counterbalance weights are to be attached to the rim of any car, bus, or truck wheel assembly. This operation can be done with the least amount of time and with guaranteed accuracy.

Turning the end screws extends or retracts the arms equidistant from center to fit various rim sizes and hardened discs on the arms bite easily into the rim to hold the balancer in position. Sliding weight on the chrome plated balance bar shows exact weight required to achieve balance and swing arm shows exact points to apply the weights.





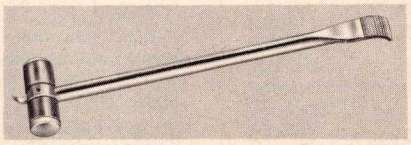


WHEEL WEIGHT PLIER

WWP-11 Wheel Weight Plier. Riveted joint construction, with set of cutters below joint for trimming weights. Plastic hammer tip minimizes changing spring clip tenson of weights. Slender curved point of head slips into weight slot — it is replaceable. The heavier hook slips under weight, applies pressure for removal. One handle has offset wedge for removing hub cap, the other has pointed end for removing stones from tread. 11⅞″ long.

WWP-11-3. Replaceable Hook.

WWP-11-4 Plastic Hammer Tip.



WHEEL WEIGHT TOOL

WWT-12 Wheel Weight Tool. For use with on-the-car balancers on cars with bell-type brake drums and fourteen-inch wheels. The small removable hook at the hammer end is hooked into the weight eye and the hammer used as a fulcrum to provide leverage to remove the weight. Plastic sleeves on the hammer protects white wall tires from scuffs. The curved handle end is used to replace weights on inside of the wheel. End is placed behind the drum and the serrated curve is used as a lever to force the weight into place. The hammer is used to place weights on the outside rim.

WALL AND CURB SIGNS

Are highly attractive, easy to read attention getters to advertise your wheel services. Identical front and back, made of 20 gauge steel with baked on, mirror-like finish in red black and white. Construction is such that these signs will give years of normal service. Easy to keep clean. Their attractiveness, readability, quality and low cost will make them profitable for you.

SS-313 Wall Bracket. Strut type, 28″ long, with a black enamel finish. Two plated hooks are included for hanging sign. Bracket has holes provided for mounting to a wall or pole, etc. Sign is not included.

SS-314 Wheel Balancing Sign only 24″ wide, 18″ high. For above bracket.

SS-312 Curb Sign. This unit comes complete with four panels as shown on page 135. If your operations do not include Wheel Alignment or Electronic Tune-up the stand can be telescoped, by removing two screws, to hold the Wheel Balancing sign as shown above, or to hold the head sign, plus one, two or all three of the other panels.

BALANCER ADAPTOR FOR RENAULT WHEELS

WBK-2-8SA Renault Adaptor Set. A new Adaptor Plate, complete with a special shaft assembly, holds the Renault wheel firmly, yet permits the wheel to rotate freely on the WBK-2A Wheel Balancer during the balancing operation.

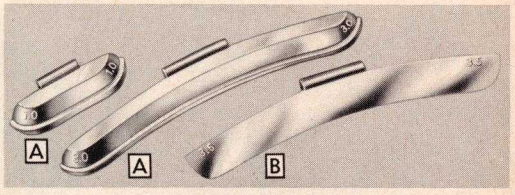
Three pins on the Adaptor Plate fit the wheel lug holes on the Renault wheel. The two-piece shaft threads together to hold the adaptor plate and wheel. The entire assembly of wheel, adaptor plate and shaft is then used in the usual manner with the WBK-2A, Wheel Balancer.

LARGE CONE SET FOR FORD AND DODGE TRUCK WHEELS

WBK-2-10L Set of two large cones, designed for use with our WBK-2A Wheel Balancer, will enable you to balance wheels of Ford and Dodge Trucks. The large openings on Ford and Dodge truck wheels make it necessary to use these larger cones in order to hold the wheels perfectly centered around the balancer spindle. Addition of this set of large wheel cones to your WBK-2A equipment will permit balancing all types of truck wheels.

METAL STORAGE CABINET FOR WHEEL WEIGHTS

KRA-405 Wheel Weight Cabinet. Designed to hold wheel weights from ¼ ounce to 6 ounces. When you own this metal cabinet you will be able to pick out the exact size weight you need immediately instead of digging through a box of mixed-up sizes. Each of the thirteen compartments is marked to show where each size weight belongs. Dimensions are 49½″ high, 12″ wide and 7″ front to back. It has red enamel finish. May be hung on a wall or stood against the wall and takes up very little space.



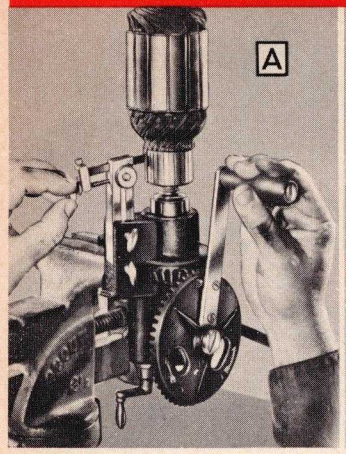
WHEEL WEIGHTS

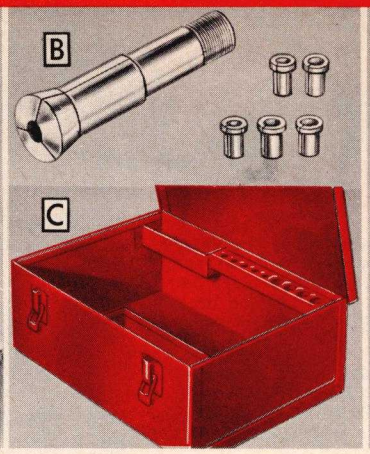
Designed with short clips which do not interfere with the sealing of tubeless tires yet provide a good solid grip on the rim. Clip edge is beveled slightly for easier application and is securely anchored in the weight. Weights are packed in boxes of 50 up to 3½ oz. weight and 25 in larger sizes.

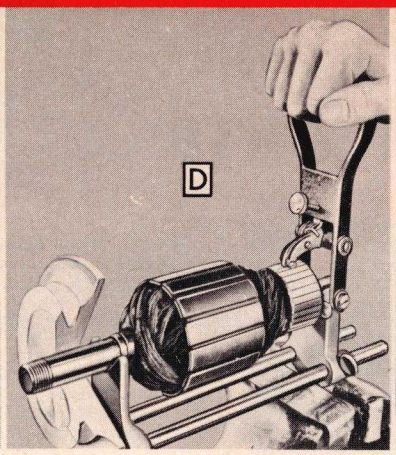
WW-84 Assortment of 925 weights 13 sizes, 100 each ¼ oz. to 3 oz., 50 each 3½ oz. to 4½ oz., 25 each 5 oz. to 6 oz.

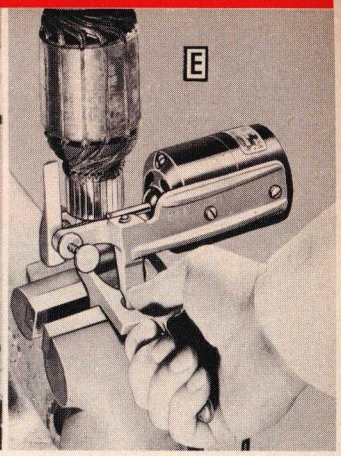
STANDARD WEIGHTS				THICK WEIGHTS			
Type	Box No.	Weight Size	Qty.	Type	Box No.	Weight Size	Qty.
A	WW-7025	¼ oz.	50	B	WW-8350	3½ oz.	50
A	WW-7050	½ oz.	50	B	WW-8400	4 oz.	25
A	WW-7100	1 oz.	50	B	WW-8450	4½ oz.	25
A	WW-7150	1½ oz.	50	B	WW-8500	5 oz.	25
A	WW-7200	2 oz.	50	B	WW-8550	5½ oz.	25
A	WW-7250	2½ oz.	50	B	WW-8600	6 oz.	25
A	WW-7300	3 oz.	50				

MONEY MAKING ARMATURE RECONDITIONING TOOLS









Commutator Turning Tool. This well engineered, sturdy machine turns out work equal to that done on expensive lathes. It handles armatures with .393", ½", 9/16", .591", 5/8", and 1 1/16" diam. shafts . . . does not require special centerless chucks . . . does the job faster than a lathe — without removing back plates. Amount of cut is controlled to the finest shaving. Bottom handle raises the armature to starting position and the armature lowers automatically as the cut is made. After commutator is turned down, use a Mica Undercutter to finish the job.

Ⓐ **AT-2X-B Commutator Turning Tool Set** including Turning Tool, 5 bushings (below), and cutter blade complete in KRA-108A metal box.

AT-2X Set. Above set without the box.

AT-2-61.....½" I.D. **AT-2-64**.....591" I.D.
AT-2-62...9/16" I.D. **AT-2-65**.....393" I.D.
AT-2-63.....5/8" I.D.
AT-2-16.....Armature Tool Steel Cutter Blade

OPTIONAL PARTS (Not Shown)

AT-2-56 Long Cutter Bar Assembly. For use on armatures with long shafts and where the regular cutter bar is too short.

Special units for Chrysler starter motors. Reconditioning the starter motor on late model Chrysler products requires this longer cutter bar and special bushing.

AT-2-57 Cutter Bar. 5" long.

AT-2-66 Bushing. .469" inside diameter.

Ⓑ **Small Collet and Bushings.** Adapt the Armature Reconditioner to fractional power motors used in vacuum cleaners, fans, sewing machines, etc.

AT-2-70...3/8" Collet **AT-2-73**....281" I.D.
AT-2-71...5/16" I.D. **AT-2-74**....265" I.D.
AT-2-72....296" I.D. **AT-2-75**....250" I.D.

AT-2-76 Volkswagen Armature Bushing. (Not shown.) Adapts the AT-2X Armature Tool to the armatures of Volkswagen generators and starter motors.

Ⓒ **KRA-108A Metal Box.** Designed especially to hold the armature reconditioning tools, collets, bushings, etc. 13 7/16" x 9 3/8" x 4 5/8" high. Red enamel finish. Metal handle on top.

Ⓓ **UC-6 Mica Undercutter.** Designed to eliminate the packing of copper chips in the corners. Reverse teeth in the cutter do the actual cutting on the return stroke. This reverse action feature also makes the teeth of the cutter blade self-cleaning. Simply clamp the base of the undercutter in a vise and attach commutator. Handles a wide range of commutator sizes without frequent parallel adjustments. The adjustable "V" base enables you to handle armatures without removing the pulley or end bell. One each of three blades listed are included.

UC-6-015.....**.015" Thickness Blade** (Included)
UC-6-020.....**.020" Thickness Blade** (Included)
UC-6-025.....**.025" Thickness Blade** (Included)
UC-6-010.....**.010" Blade** (Not Included)

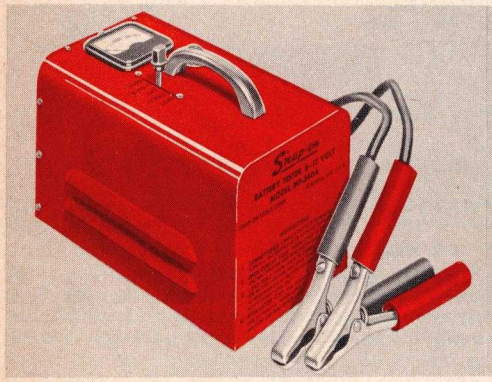
Ⓔ **AT-1 Electric Mica Undercutter** is designed to perform faster, easier and much more accurately than is possible with manually operated units. Easily portable . . . Weighs less than five pounds so that it can be moved from one location in the shop to another with ease. Unique design permits attachment to any vise and does not require attachment to a lathe, etc., for use.

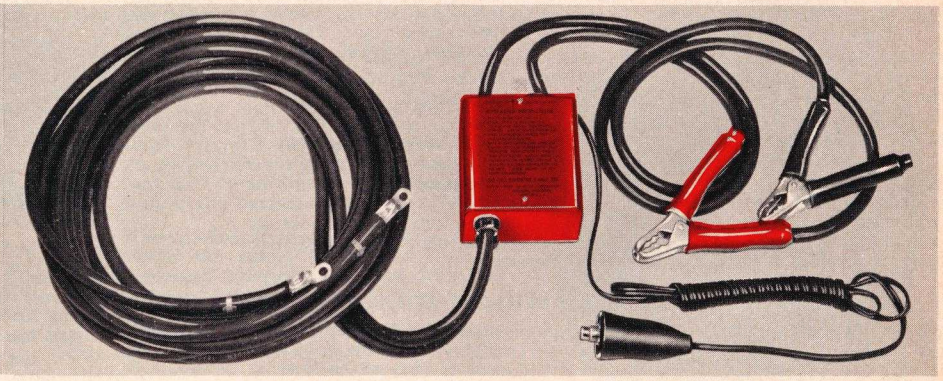
Highly accurate . . . Depth of cut is easily adjusted by means of the adjusting screw lock nut located on the frame of the undercutter. All grooves can be cut to the same depth, resulting in better armature performance and longer brush life. The circular blade turns very rapidly and, since all grooves are cut to the same depth, a very clean job with no copper flaring is possible. This is especially important as flaring or grit could cause short circuits after armature has been reinstalled.

Pulleys, end plate or gears need not be removed before undercutting. This is a real time and temper saver which helps minimize time required to do the job. The universal V-Block is designed to handle all popular armature shafts. Adjusts easily to various size openings by means of two knurled nuts on the frame of the tool. The universal motor incorporated in this tool operates on 110 volt, 25–75 cycle, A.C. or D.C. current. Net weight of entire unit is four pounds, twelve ounces.

AT-1-14A .010" Blade **AT-1-14C .020" Blade**
AT-1-14B .015" Blade **AT-1-14D .025" Blade**
AT-1-220 220 volt model available on special order.

NOTE: Armature Growlers are shown on page 141.





AUTOMATIC 6 AND 12 VOLT BATTERY TESTER

MT-340A Battery Tester. Shows capacity and condition of the battery without disturbing or puncturing the insulation.

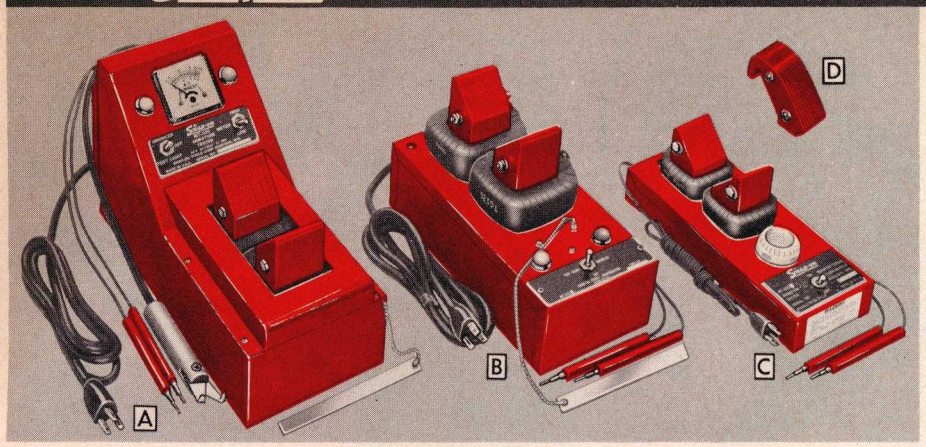
Performs three important tests: 1. Open Circuit Test shows battery condition and no-load voltage; 2. Load Test shows if battery can deliver sufficient power for 30 seconds which is measure of capacity; 3. Regulator Test performed with engine running shows operation of regulator.

Five-position heavy-duty breaker type switch will stay in the "6 volt," "off" and "12 volt" positions, but has to be held in the respective "load" positions. This prevents accidental overloading. Red pilot light glows when tester is in open circuit. 43" color-coded lead wires have insulated handle terminal clips.

POLARITY PROTECTED BATTERY BOOSTER CABLE SET

MT-343 Polarity Protected Battery Booster Cable Set. Designed primarily for permanent installation on a service vehicle with a 12-volt negative ground ignition system. With this set the service vehicle's own battery and generating system is used to start stalled vehicles. The unit is designed so that it is impossible for it to operate if the cables are hooked up wrong thus eliminating possible damage to the alternator diodes or any other part of the electrical system. Cable length is 24' to handle most any location problem. The unit incorporates a remote control switch that has a 10' long lead. Cables are made of No. 2 welding cable for greater current carrying capacity.

Snap-on ARMATURE GROWLERS ARE HIGH QUALITY



A DELUXE-TYPE GROWLER

Ⓐ **MT-326 Armature Growler. 117 volt 60 cycle, A.C.** Raised panel at rear places meter in easier-to-read position. Keeps switches handy. Pole pieces are at front. Armature, with or without fan assembly can be placed on pole pieces. Two heavy duty toggle switches, easy-to-read 2-scale meter and red and green pilot lights are all conveniently grouped.

Switch at left provides 3 positions: Growler, Off and Test Light. Growler position is used in conjunction with growler tests including the use of hand piece. Does not overheat even if switch is left on without armature in pole shoes.

Switch at right selects amperage range. This is a two position switch, "High" actuating the high scale of the meter for testing large armatures, and "Low" for small armatures. The two-scale meter is calibrated from 0 to 5 amps. for testing small armatures, and 0 to 25 amps. for large armatures. Balanced needle movement may be zeroed by means of screw in plastic cover.

The red pilot operates when either Growler or Test Light switch is on — acts as warning, prevents needless waste of current. Green test light used in conjunction with continuity testing, operates when continuity or a closed circuit exists. Test Prods have insulated handles, operate at mere 24 volts, eliminate shock hazard and have "fixed" rather than "spring-loaded" points.

Steel Blade furnished is used for short circuit tests, and the adjustable Hand Piece is used with meter in making bar-to-bar current tests. Points on hand piece can be spread for multiple bar testing. Finished in red baked-on enamel. Case has compartment to store test prods, hand piece and blade.

MT-326-220 Growler. Same as above but 220 volt 60 cycle A.C. Available on special order.

EACH GROWLER HAS THIS FEATURE

All Growlers listed have two individual coils in one magnetic circuit. Each coil consists of two isolated windings, one of which is for test prods and test light. This isolation is important since it removes test prods from the 117 V. circuit to eliminate shock hazard. The two dual coils provide a more efficient magnetic field for unit to be tested.

HIGH QUALITY GROWLER

Ⓑ **MT-323 Armature Growler.** Modestly priced, this growler provides many features which make this a highly desirable unit. The rugged construction will provide long, trouble-free service. Coils, laminations and transformer of this Growler are designed for heavy duty operation. Low voltage test leads. 3-pronged plug and grounded case provide high safety factor for the operator. An indicating light is provided for continuity tests. Pilot light shows when unit is "on." A test blade is also included, and is chained to the housing. Controls are provided by the three-way switch. The case has a red, baked-on enamel finish, and is equipped with rubber feet. Operates on 117 Volt, 60 cycle A.C. single phase.

MT-323-220 Growler. Same as above but for 220 volt, 60 cycle A.C. Special order only.

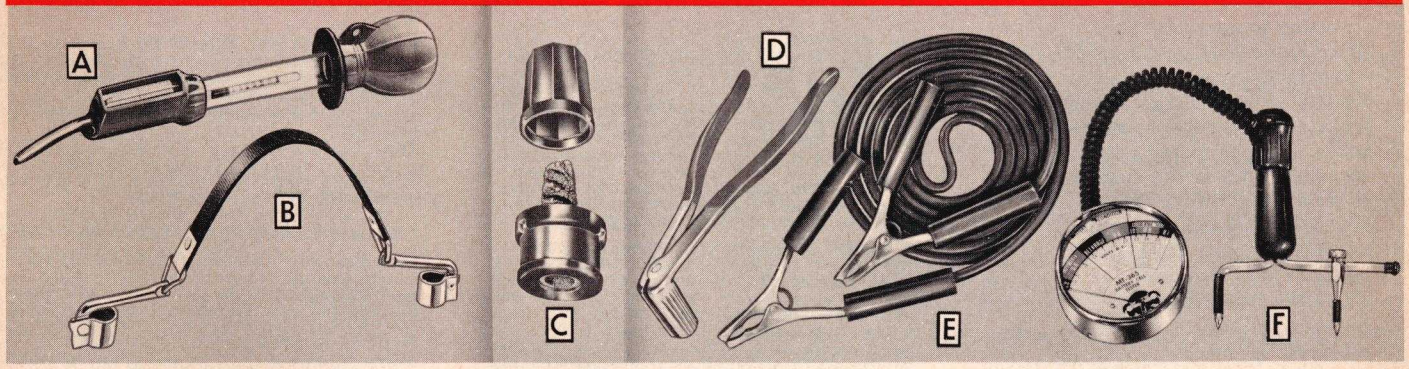
LOW COST GROWLER

Ⓒ **MT-320A Armature Growler.** Excellent for checking, short circuits, open circuits and grounds in armature winding or when reconditioning motors and generators. For 117 V. 60 cy. A.C. A compact unit with prods, test lamp socket and switch, all mounted on a metal base. Well built but of simpler construction than the MT-323 listed above. All you need to do is screw a light bulb in the socket and you are ready to test. The heavy-duty "On-Off" switch controls the coils, probes and lamp. Probes and lamp are independently wired and only work when switch is "On." Equipped with the same double coils as used in the other Growlers and as described at left. The Growler can be used for testing virtually all armatures.

ARMATURE GROWLER ADAPTOR

Ⓓ **MT-329 Armature Growler Adaptor.** For testing small armatures such as on electric drills, heaters, etc. Adaptor is hooked over the pole piece on standard growler thus making the bridge smaller. 11 sets of laminations are separated by insulated bakelite washer. Ventilated construction. 3¾" long, 2¼" wide.

THESE BATTERY SERVICE TOOLS HELP BRING MORE PROFIT



Ⓐ **BB-4A Hydrometer-Thermometer.** Has float gauge printed in three colors with "Recharge," "Fair" and "Good" markings to indicate exact battery condition. Range of 1,060 to 1,320 covers all test conditions. Recessed thermometer with range of 0 to 160 degrees shows temperature and Specific Gravity corrections. Six ounce capacity red rubber filler bulb has straight stem and is 10½" overall.

Ⓑ **GA-154 Battery Carrier.** The clamps slip over the battery terminals and, as lifting pressure is applied, exert pressure on the terminals to hold the battery securely. Clamps swivel to conform to various terminal locations. Carrier is 18" long.

Ⓒ **BTC-3 Battery Terminal Brush.** Plastic case is highly resistant to battery acids. Two brushes are provided, one female for cleaning terminals, the other is male for cleaning clamps. Brushes are of stiff wire so spaced to clean quickly and thoroughly.

Ⓓ **GA-118B Battery Terminal Spreader** with 1⅝" offset serrated jaws to spread and clean terminal clamps in one operation without distorting the clamp. Handles give firm grip.

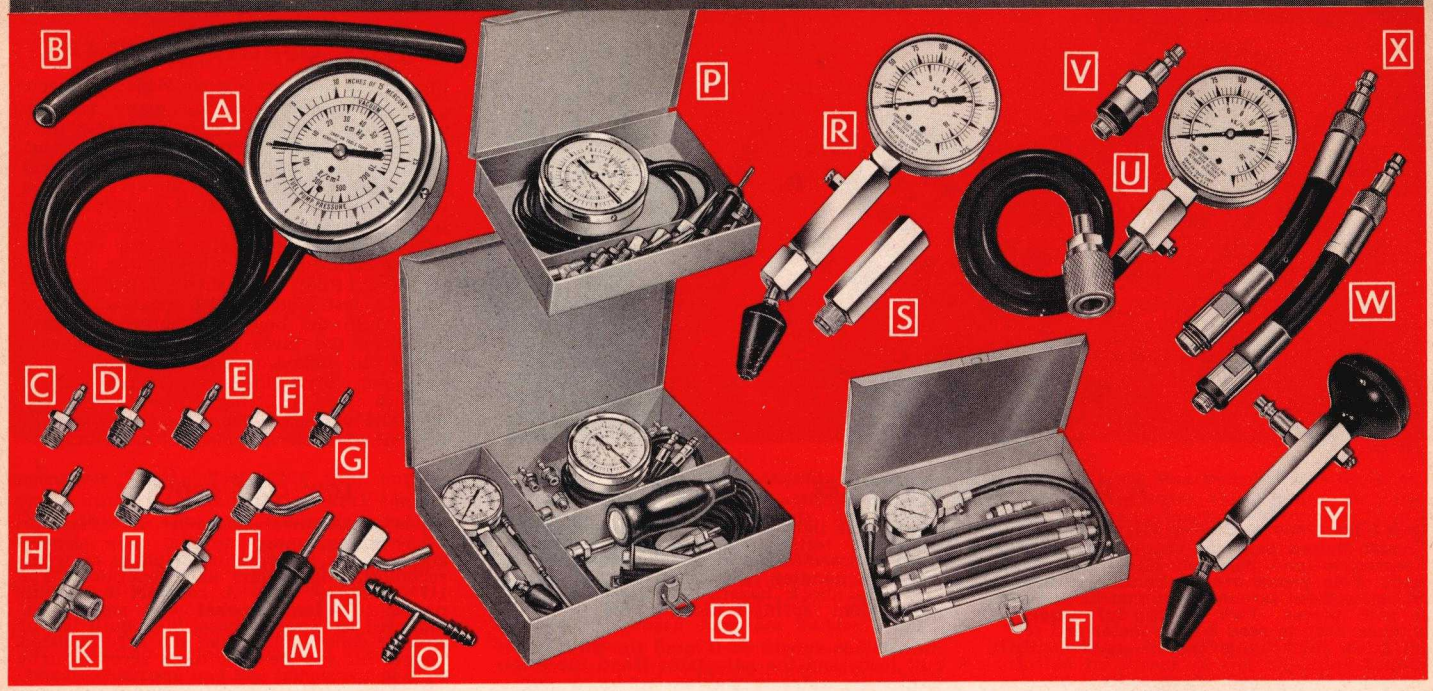
Ⓔ **Heavy Duty Battery Booster Cables.** High efficiency No. 2 and No. 4 gauge flexible welding cable permits greater current capacity with less voltage drop than cables made of 6 or 8 gauge material and over a greater cable length. This is very important in cold weather, when all possible power is needed to turn the engine and fire the spark plugs. Clamps have copper inserts that contact the terminal posts and minimize power loss. Flexible at 10–20 degrees below zero the insulation resists cracking.

MT-341 Set. Two 20-foot No. 2 gauge cables. Has a voltage drop of only 1.4 volts at 200 amperes.

MT-342 Set. Two 12-foot No. 4 gauge cables. Has a voltage drop of only 1.36 volts at 200 amperes.

Ⓕ **MT-365A Battery Cell Tester** designed for highly accurate tests such as the Delco-Remy light load cell test, standard load test, open circuit test and regulator tests. Ruggedly constructed for long life. Meter is sealed in chrome plated case, meter face protected by glass impervious to all garage solvents, case has metal bracket for hanging. Compactly coiled, oil and grease resistant neoprene covered probe cord extends to 4 feet and retracts to 10". Large 3½" diameter face has each segment color coded (red and green). The entire meter range from 1.58 volts to 2.6 volts is calibrated in increments of 1/100 volts, with division marks at 5/100 volt increments. Simplified instructions are printed on the meter face for added convenience. Color coded probes are adjustable from 2½" to 4⅞" which is ample for various battery cell spacings. Large, wood probe handle with rubber cap provides firm grip.

Snap-on TOOLS THAT WILL HELP YOU SHORTEN TUNE-UP TIME



Snap-on VACUUM GAUGE

Ⓐ **MT-14E Vacuum and Fuel Pump Gauge.** A restriction valve controls and minimizes the indicator vibrations and assures more exact readings. Each gauge comes equipped with four feet of hose. Complete instructions are also included.

Vacuum Scale: Shows up to 28 inches of mercury in one and five inch increments and metric calibrations up to 700 millimeters of hydragyrum in twenty and one-hundred mm increments.

Fuel Pump Pressure Scale: Shows up to 10 p.s.i., in half and one p.s.i. increments and in metric calibrations up to 700 grams per square centimeter in 50 g/cm² increments.

VACUUM GAUGE ADAPTORS

These adaptors are needed to attach the MT-14E Vacuum Gauge hose for various carburetor, fuel pump and exhaust emission test connections.

Ⓑ **MT-425-12** 6″ adaptor hose
Ⓒ **MT-12-10** ⅛″ pipe thread adaptor
Ⓓ **MT-12-12** ½″-20 thread adaptor
Ⓔ **MT-14-6** ¼″ x 18 thread adaptor
Ⓕ **MT-14-7** ⅛″ pipe, 7/16″-24 adaptor
Ⓖ **MT-14-13** 7/16″-24 thread adaptor
Ⓗ **MT-14-14** ⅝″-18 thread adaptor
Ⓘ **MT-14-8** ½″-20 thread adaptor
Ⓙ **MT-14-9** 7/16″-24 thread adaptor
Ⓚ **MT-14-10** ⅛″ pipe thread, 3-way
Ⓛ **MT-14-11** hose coupling
Ⓜ **MT-14-12A** tube connector
Ⓝ **MT-14-15** ⅝″-18 thread adaptor
Ⓞ **MT-14-16** "T" adaptor

VACUUM AND FUEL PUMP GAUGE SETS

Ⓟ **MT-311C-B Set** consists of the MT-14E Vacuum Gauge described above plus the fourteen adaptors also described above, in KRA-128 metal box.

MT-311C Set. Above set without box.

KRA-128 Metal Box. Box is 8″ wide, 6½″ front to back and 1⅝″ deep with partitions to separate gauge from adaptors. Button type latch secures hinged cover.

COMPRESSION GAUGE ADAPTOR

Ⓢ **MT-24D8 Compression Gauge Adaptor.** This extension fits on the MT-24H or older model gauges so they can be used on the Chrysler line of V-8 engines with deep set spark plug openings. The cone assembly of the gauge is removed and the adaptor threaded onto the end of the shaft. Replacing the cone assembly leaves the gauge ready for use. When installed, the release valve is 6¾″ from the cone tip.

Snap-on ENGINE TUNE-UP SET

Ⓠ **MT-318E-B Engine Tune-Up Set.** With this set any mechanic can quickly tell "What's" wrong with a motor and "where" . . . can shorten tune-up time and turn out easy-starting, sweet-running jobs that will satisfy your customers and bring more business. And . . . each tool is a dependable precision instrument — gauges are designed like watches, with bushed bearings and ultra-sensitive spring movements.

The set consists of the following twenty-two units: MT-24H Compression Gauge, MT-24D8 Adaptor, MT-14E Vacuum Gauge with fourteen adaptors listed to left, MT-51 Timing Light, MT-16 Adaptor Jack, MT-26-13A fourteen mm., and MT-26-14A eighteen mm. Cylinder Pressure Adaptors and the MT-19A Flexible Spark Plug Adaptor, complete in a sturdy KRA-125 metal case. Case has our standard red enamel finish.

MT-318E Same Set as above but without case.

Snap-on COMPRESSION GAUGE

Ⓡ **MT-24H Compression Gauge.** Dial registers from zero to 250 p.s.i., in five p.s.i., increments and in metric calibrations from zero to 17 kg./cm² in one half kg./cm² increments . . . holds the highest compression reading exactly until the release valve button is pressed. The gauge may thus be removed from the spark plug hole for easier reading. Dial cover is easily replaced if damaged.

A big improvement over previous models is the use of a new check valve. This valve is quite similar to an inner tube valve but do not use an ordinary valve as a replacement as it will cause inaccurate readings. A spare valve is included in the service kit. The cone tip is made of neoprene and is not affected by grease or gasoline . . . swivels to reach and fit all spark plug holes. Service kit is included.

MT-24DR Service Kit included with each of the above gauges consists of the following parts. Cone tip, valve, and sealing ring in drawstring bag. Note: this kit is for MT-24H compression gauge and previous models.

UNIVERSAL COMPRESSION GAUGE ADAPTOR

Ⓨ **MT-26-9 Universal Cone-type Adaptor** for use with MT-26-D Compression Gauge when taking readings on low compression engines. Has 2-piece hexagon housing with neoprene cone shaped for easy insertion and swivel joint to use on any spark plug hole. Black plastic knob with firm grip enables adaptor to be held firmly in spark plug well. Release valve button releases air after test so needle zeros. Gauge hose is quickly and easily connected to side outlet.

Snap-on COMPRESSION GAUGE SET

Ⓣ **MT-308E-B Compression Gauge Set** consisting of MT-26D Compression Gauge, MT-26-11, MT-26-6, MT-26-12A and MT-26-16 Adaptors, in KRA-124A Box.

Ⓤ **MT-26D Compression Gauge.** This 25″ flexible hose type compression gauge and adaptors are a necessity when working on late model cars where there is a lack of clearance. The 24″ hose is fitted with a quick-coupler for fast connect and disconnect of adaptors, giving you access to almost any engine. Dial registers from 0 to 250 p.s.i., in five lb. divisions and in metric calibrations from 0–17 kg/cm², in one half kilogram increments. A push button releases all air after test. The gauge comes complete with the MT-26-10, 14 mm. x 1.25 universal adaptor with 8″ hose.

Ⓥ **MT-26-6 14 mm. Short Adaptor** for Chevy.

MT-26-11 18 mm. Adaptor with 8″ flexible hose for use on Ford products with 18 mm. spark plug holes.

MT-26-12A 14 mm. Adaptor for use on 1959–64 Chevrolet cars and trucks with the large 348 cubic inch engine. Very similar to the MT-26-6 adaptor in appearance.

MT-26-16 14 mm. Adaptor. Designed for use on 1967 Buicks.

KRA-124A Metal Box, 6″ x 9″ x 1¼″ deep. Has a partition to separate gauge from adaptors. Will also hold the MT-26-9 Universal Adaptor along with the MT-308E-B Set.

CYLINDER PRESSURE TEST ADAPTORS

Hold the valve up in position while the spring is replaced or to chack for leaky valves or gaskets, bad rings, or cracked blocks. Screw the adaptor into the spark plug hole, attach the air hose and inject air pressure into the cylinder to keep the valve seated.

While similar in appearance to our MT-26-11 Compression Gauge Adaptors, these test adaptors have no check valves and cannot be used with the Compression Gauge. Each adaptor is 7″ long, the center portion is flexible.

Ⓦ **MT-26-13A 14 mm. Cylinder Pressure Adaptor.**

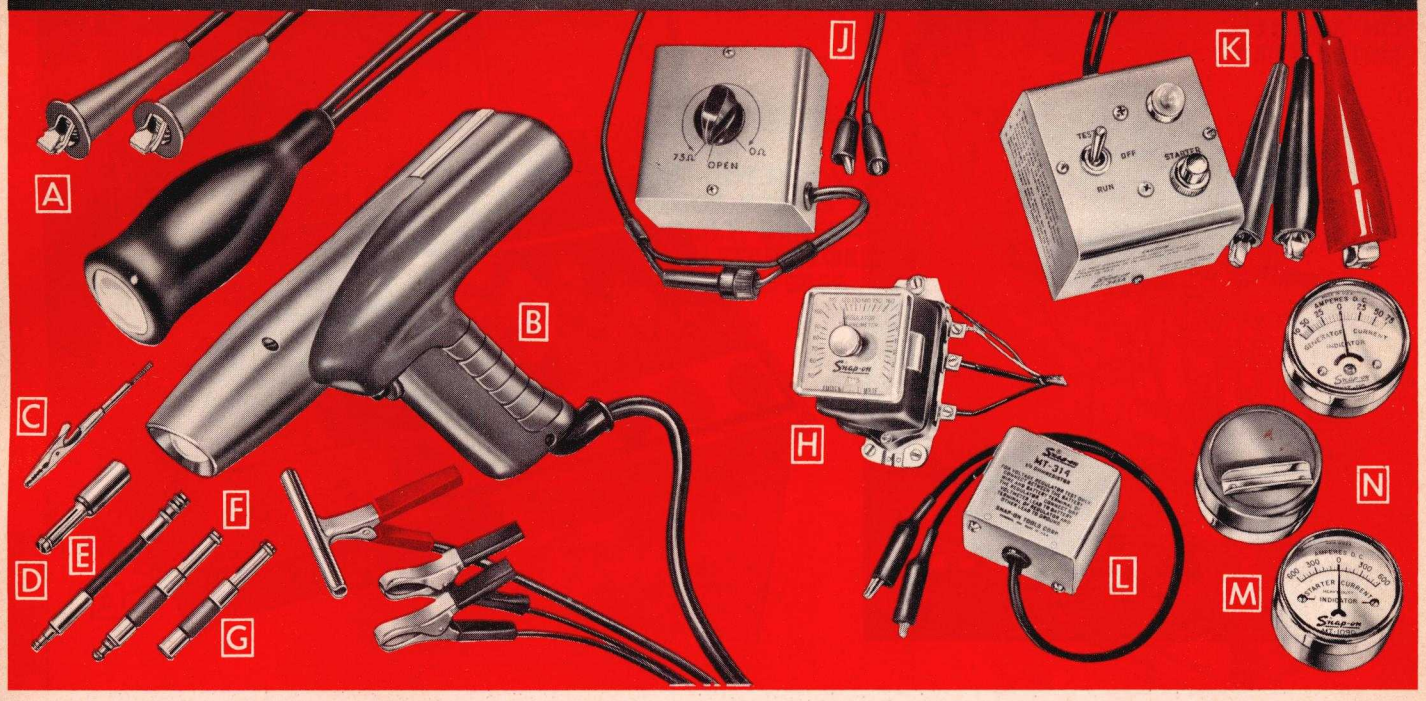
Ⓧ **MT-26-14A 18 mm. Cylinder Pressure Adaptor.**

MT-26-15A 14 mm. Cylinder Pressure Adaptor. For Chevy 348 cubic inch and GMC V-6 and V-8 engines. Similar to MT-26-13A but has longer threaded section.

RUBBER GLOVE AIDS TESTING

GA-196 Rubber Glove. Thin, flexible and highly shock resistant. Permits direct contact with secondary voltage leads or terminals without getting a high tension jolt. Lets you remove leads faster than with insulated tongs. Hot manifolds or sharp objects can easily damage the glove, and we recommend you use a cotton glove over the rubber glove.

LOCATE TROUBLES IN A HURRY WITH THESE DEPENDABLE TOOLS



Snap-on TIMING LIGHT

Ⓐ **MT-51 Timing Light.** This unit may be used on any volt system. The new coil-type neon tube provides a brighter light than many units. The tube is housed in a streamlined, soft rubber case molded to hold a plastic lens. The lens is break-resistant and the rubber case resists shock damage, provides good insulation and is easily held.

The unit is 6″ long with timing light leads four feet 3 inches long. Lead end clamps are fitted with rubber boots. Small size of the unit makes it easy to get down to the timing marks.

POWER TIMING LIGHTS

Ⓑ **MT-215A Power Timing Light.** Improved method of triggering the flash tube permits use of a capacitive clip on the spark plug lead that senses the impulses through insulated wires without puncturing the insulation. Helps avoid burns to fingers and knuckles, attach it anywhere along number one spark plug wire for timing the engine. You can also clip it to each of the spark plug wires and tell, by observing the light, whether the plug is firing. Light pattern is concentrated to a high degree of brightness regardless of engine speed or whether 6 or 12 volt system. Pistol grip handle has a convenient push-button switch.

Flexible leads leave through a rubber strain reliever, out of the way of the hands. High impact, glossy red plastic case insulates against shock, will not break or chip if dropped and is not harmed by grease, gasoline, or oil. Parts are replaceable.

MT-215 Power Timing Light. Housed in the same case as the MT-215A above but has different circuitry. This model does not have the capacitive type clip shown above but has the two battery clips and a smaller clip for attaching to a spark plug or a spark plug adaptor jack. Extremely efficient electrical circuit provides a high degree of brightness and concentrated light pattern regardless of engine speed.

SPARK PLUG ADAPTOR

Ⓒ **MT-319 Spark Plug Adaptor.** Permits attachment of our Timing Lights or Anal-O-Scopes to various foreign cars such as Volkswagen, Karmen Ghia, and Porsche. The adaptor clips onto the spark plug, the plug lead is pressed onto the threaded end and the test instrument is attached to the center.

TIMING LIGHT ADAPTOR JACK

Ⓓ **MT-16 Timing Light Adaptor Jack.** Many cars have completely shielded ignition leads making it impossible to connect the timing light lead to the spark plug. This brass adaptor plugs into the distributor cap in the No. 1 spark plug lead opening and the lead plugs into it — providing sufficient contact area for clipping on the timing light. 2″ long.

FLEXIBLE SPARK PLUG ADAPTOR

Ⓔ **MT-19A.** Long enough so that shorting tests can be made (or a timing light clip attached) without altering position of the spark plug insulation boot. The metal female end is shaped to fit snugly over plug. Rubber covered section is very flexible. 4¼″ long. **MT-198 Set** of eight adaptors.

ANAL-O-SCOPE ADAPTORS

Designed to eliminate triggering problems when testing Volkswagens and other vehicles with our Anal-O-Scope. Such problems may be caused by low cylinder compression, closed spark plug gap, carbonized plugs, or induced voltage.

By introducing a spark gap into the high tension lead, these adaptors overcome such problems. Simply use the adaptor in series with the high tension lead at the distributor or the spark plug.

Double or intermittent timing light flashing is also solved with these adaptors.

Ⓕ **MT-40 Spark Plug Adaptor.** One end fits over the spark plug, the other end accepts the lead. Center portion is insulated and brass ends allow attachment of trigger lead. 3 3/16″ long.

Ⓖ **MT-41 Distributor Adaptor.** Has center insulated portion. One brass end fits into distributor, the other end receives the high tension spark lead and provides for attachment of trigger lead. 2¾″ long.

VOLTAGE REGULATOR THERMOMETER

Ⓗ **MT-115 Thermometer.** Needed for tests of charging circuit and for adjusting voltage regulators correctly. Surrounding temperature of regulator can vary considerably and settings vary with the temperature. In order to follow manufacturer's precise regulator setting recommendations you need this thermometer. Two metal springs clamp it over the top of any regulator. The plastic covered dial measures from 50 to 220 degrees Fahrenheit.

FIELD RHEOSTAT

Ⓙ **MT-316A Field Rheostat.** Small, easy to use with any 6 or 12 volt regulator tester that does not have built-in rheostat. Control panel with continuous adjustment from 0 to 50 ohms with separate setting for full open circuit. Has flexible 6 foot lead with alligator clips and boots. Uses an 8 ampere fuse.

Snap-on IGNITION CONTROLLER

Ⓚ **MT-345A Ignition Controller.** 6 or 12 volt systems. Starts an engine without ignition keys; permits intermittent or constant turnover of engine from outside of car (without starting if desired); checks for broken circuits or blown fuses; use to bypass switches; use as a direct or intermittent switch; use to test and adjust horns; for finding voltage drop in charging circuit; for grounding out armature.

Case is 2″ x 3½″ x 3½″. Starter button controls heavy duty, momentary contact type switch substituting for any switch on the auto. Starter will not crank unless button is pressed — it is spring loaded to prevent accidental operation. The indicating light provides visual means of checking distributor pont operation. The switch has "START," "OFF" and "TEST" positions. "START" is same as ignition switch on car. "OFF" is used for cranking operation without starting the car. "TEST" is used in examining the opening and closing sequence of distributor points, checking continuity, using light as indicator, checking operation of any switch, etc. Has three flexible 6-foot leads, and color coded heavy duty clamps. Automatic circuit breaker protects controller.

CT-4-5 Replacement Indicator Bulb.

¼ OHM RESISTOR

Ⓛ **MT-314 ¼ Ohm Resistor** for use with our A.V.R. Testers and Regulator Testers. Used to simulate a fully charged battery during the regulator test. Red enamel case, 2¼″ x 2½″ x 1⅝″ with 2 highly flexible 15″ leads for ample "reach" for quick installation. Alligator clips have insulated boots.

GENERATOR CURRENT INDICATOR

Ⓝ **MT-110 Generator Current Indicator.** Shows if generator is delivering current under load without disrupting wires or parts. Dial is calibrated from 0 to 75 amps. on both sides of zero, in 5 amp. increments permitting reading regardless of current flow direction. In use, metal channel on rear of case is placed over generator output wire and reading observed.

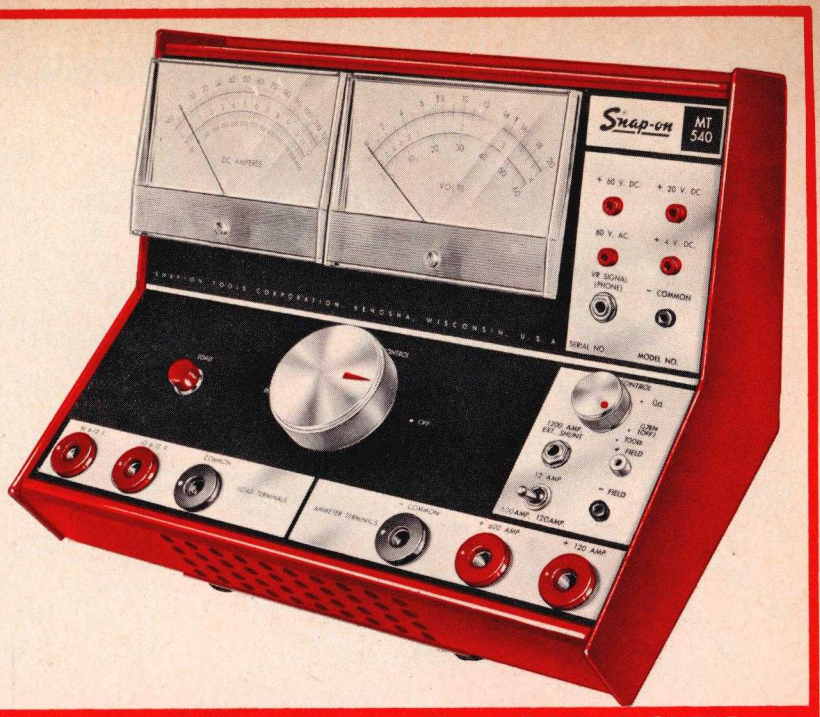
STARTER CURRENT INDICATOR

Ⓜ **MT-109D Starter Current Indicator.** Checks the amperage draw of the starter motor. Too high a reading indicates worn bearings, grounded fields or armature coils. A low reading with a sluggish motor means excessive starter circuit resistance.

Place the metal channel of the gauge over the starter cable and depress the starter switch . . . gauge will show the amperage. Dial has 25 amp. markings from 0–600 in 2 directions to operate regardless of the cable polarity. It also has green "O.K." and red "HIGH" ranges for fast checking.



MT-540C AVR TESTER MOUNTED ON KRA-416C METER STAND



Snap-on AVR TESTER WITH HEAVY DUTY CAPACITY

MT-540C AVR TESTER . . . ONE OF THE BEST PROFIT MAKING TESTERS YOU CAN OWN

Here's a tune-up man's right arm. This versatile SNAP-ON AVR Tester is six instruments in one — a Field Rheostat, AC Voltmeter, DC Voltmeter, DC Ammeter, Carbon Pile Load and Battery Tester. This makes the AVR a complete tester for alternators, generators, regulators and batteries.

Dozens of new features make it the finest AVR you can own. It's even got earphones so you can accurately check upper and lower point voltage settings on double contact regulators.

This new AVR Tester handles 6, 12, 24, 30 and 32 volt systems. Use it on cars, trucks, buses, tractors — both U.S. and foreign. Built for heavy use, it's SNAP-ON quality throughout. Readings are pin point accurate and the scales are easy to read. Complete instruction manual makes operation simple.

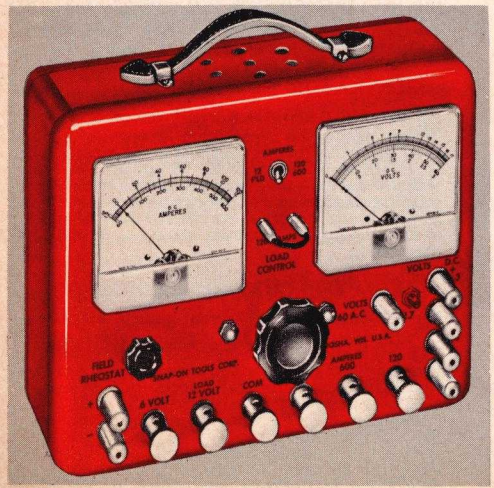
Features of the SNAP-ON MT-540C AVR Tester

- Large, easy-to-read 6" meter dials.
- Clear plastic meter face covers.
- Precision instruments are calibrated to extreme accuracy.
- Variable carbon pile provides positive control over the charging system at all times — prevents damaging electrical components while making tests.
- Field current draw reading is made by simply flipping a switch — no need to change any connectors.
- Positive battery protection is given by a red warning light which indicates when the carbon pile is on.
- Extra long, color-coded leads lock in with a quarter turn and prevent the possibility of an exposed live terminal.
- A sensitive earphone is provided and plugs into the tester for accurately checking the upper and lower point setting on double contact regulators.
- Large control knobs are clearly marked and easy to turn.
- Heavy gauge steel case has durable red enamel finish and sturdy carrying handle.
- Instrument panels in contrasting dull black and brushed aluminum.
- Clean, modern functional design.
- Simplified test and hook-ups are explained in detailed, easily understood instruction manual.

Earn big profits in batteries, alternators, generator regulators, starter systems and electrical accessories. Replace or repair them — this instrument pinpoints the trouble quickly. This compact, portable unit can be used as a battery tester, starter tester, alternator tester or generator-regulator tester. It can also be used to check the current draw of any electrical component as well as voltage drop across any switch or wire. Its field rheostat provides accurate control over alternator or generator output with fused rheostat leads to protect the circuit.

Tests Which Can Be Performed

- Battery capacity
- Starter current draw
- Starting system resistance
- Alternator output
- Generator output
- Voltage regulator setting
- Charging system resistance
- Current regulator setting
- Cutout opening and closing
- Alternator field current
- Generator field current
- Field circuit resistance
- Voltmeter tests
- Ammeter tests
- Shorted or open diodes



MODEL MT-540B AVR TESTER

This quality instrument enables you to handle a wide range of tests that lead to the profitable replacement or repair of batteries and parts in starter and electrical systems. Most of the tests performed by the DeLuxe model above can be done with this excellent instrument. It does the work of six instruments . . . AC Voltmeter, DC Voltmeter, DC Ammeter, Field Rheostat, Carbon Pile and Battery Tester and may be used on 6, 12, 24, 30 or 32 volt systems found on cars, trucks, buses, trailers, marine engines — of U.S. and other manufacture. It is very accurate and the scales are clearly marked and easily read. All necessary leads are included and terminal connections are made easily. Voltmeter and field rheostat leads plug into friction jacks. Ammeter and load leads are clamped into binding posts with lock screw. A complete instruction book is furnished. The case measures 13½" x 10" x 7½" and has red enamel finish. Carrying handle is leather and there are four rubber feet.

KRA-407 Adaptor. Permits mounting your MT-540B AVR Tester as the instrument unit on MT-645 Test Bench Power Unit.

AVR TESTER SPECIFICATIONS

Deluxe Model MT-540C (Above)

Size: 16" wide, 12⅜" high, 17" deep.

Ammeter Ranges: Minus 10 to + 120 amp. (1 amp. div.)
Minus 1 to + 12 amp. (.1 amp. div.)
Minus 50 to + 600 amp. (5 amp. div.)
With optional shunt minus 100 to + 1200

Voltmeter Ranges: 0–4 (.02 V. div.), 0–20 (.1 V. div.), 0–60 (.5 V. div.)
Both D.C. and A.C.

Field Rheostat: 100 Ohms, with open position for system cycling.

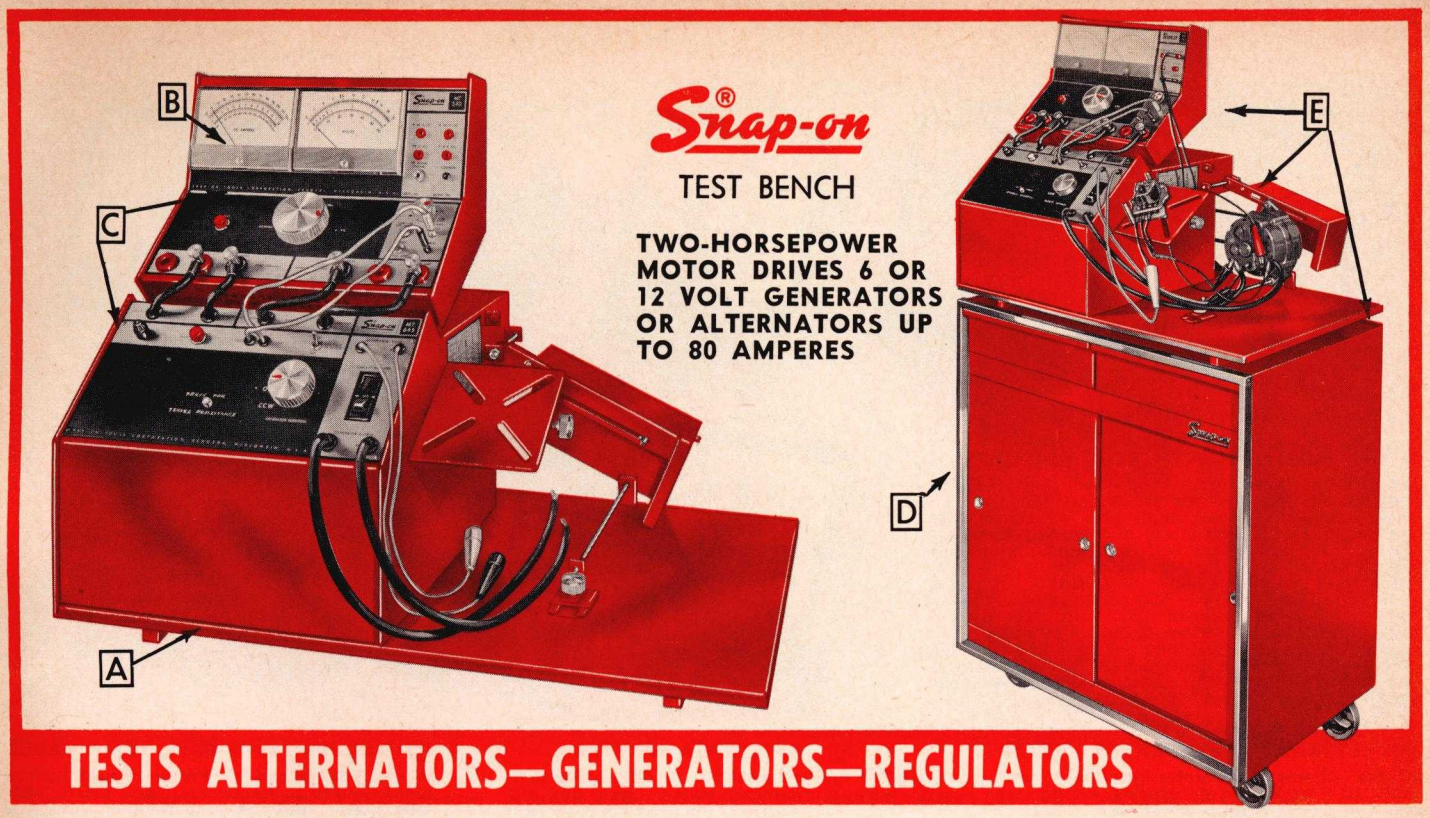
Model MT-540B (At Left)

Size: 13½" wide, 10" high, 7½" deep.

Ammeter Ranges: Minus 12 to + 120 amp. (1 amp. div.)
Minus 1.2 to + 12 amp. (.1 amp. div.)
Minus 60 to + 600 amp. (10 amp. div.)
With optional shunt minus 120 to + 1200

Voltmeter Ranges: 0–3 (.05 V. div.)
0–17 (.1 V. div.)
0–60 (1 V. div.)
0–1.7 (.01 V. div.)
Both D.C. and A.C.

Field Rheostat: 75 Ohms, with open position for system cycling.



Snap-on®

TEST BENCH

TWO-HORSEPOWER MOTOR DRIVES 6 OR 12 VOLT GENERATORS OR ALTERNATORS UP TO 80 AMPERES

TESTS ALTERNATORS—GENERATORS—REGULATORS

IT IS VERSATILE — EFFICIENT — PORTABLE — EASY TO USE

This modern test bench is another SNAP-ON time-saving, money-making unit. With it you can test repaired or rebuilt alternators, generators, or regulators quickly, efficiently and economically by duplicating any on-vehicle condition. Note that the instrumentation of the MT-540C or MT-540B AVR Testers described on the page opposite, can be used an an integral part of the bench. This can really hold down equipment investment while the work capacity and profit potential of your shop rises sharply. If desired, the AVR tester can be removed in less than 30 seconds to perform the many on-vehicle tests shown to the left.

Powered by a two horsepower motor, the tester will drive 6 or 12 volt generators or alternators up to 80 amperes. Four speeds ranging from 1,310 to 5,200 r.p.m. for any of nine different pulley sizes encountered provide controlled accuracy for efficient testing. Specially designed universal mounts provide fast, easy installation or removal of test units while a reversible motor drive permits either clockwise or counterclockwise rotation.

The KRA-450 Roll Cab (illustrated) mounts the testbench at just the right working height, providing portability and ample storage for all auxiliary service equipment. Servicing generators, alternators, and regulators is a high profit business. Put yourself into this lucrative field with the complete SNAP-ON Test Bench.

TEST BENCH UNITS AVAILABLE

Ⓐ **MT-645 2 H.P. Test Bench Power Unit** without instrumentation. The MT-511 Instrumentation Unit below or MT-540C or MT-540B AVR Tester on opposite page can be mounted to provide the instrumentation. MT-540B requires a KRA-407 Mounting Holder.

Ⓑ **MT-551 Instrumentation Unit.** This is the MT-540C AVR Tester with voltmeter leads but without all other AVR test leads.

Ⓒ **MT-4071 Complete Power Supply and Instrument Units.** Consists of the MT-645 and MT-551 above.

Ⓓ **KRA-450 Roll-Cab.** Mounts the MT-4071 Test Unit at just the right work height.

Ⓔ **MT-4070 Test Bench and Roll-Cab Combination.** Consists of the MT-4071 Unit and KRA-450 Roll-Cab.

MT-550 Lead Set. Converts the MT-551 Instrument Unit to an MT-540C AVR Tester.

MT-4072 Test Bench and AVR Combination. Consists of the MT-645, MT-540C and KRA-450.

SPECIFICATIONS

Height: 61⅛" (on roll-cab as shown)
Width: 32⅛"
Depth: 19¼" (front to back)
Power: 2 HP, 220 volt, single phase, constant speed motor
Capacity: 6, 12 volt systems
Speed Range: 1,310 to 5,200 r.p.m.

OPTIONAL ACCESSORIES FOR AVR TESTERS

BATTERY POST ADAPTOR

Ⓕ **MT-358 Battery Post Adaptor.** Speeds hook-ups and test procedures. Required to connect a test ammeter into a sealed charging circuit. Provides fast, safe and easy hook-ups of ammeter and voltmeter leads on any vehicle and prevents damaging alternator diodes should an ammeter lead be pulled loose during tests or the circuit be opened without an ammeter properly connected.

A ¼ ohm resistor built into the unit enables accurate voltage regulator tests as it simulates a fully charged battery. The unit threads onto the battery terminal and the battery cable is then attached to the adaptor.

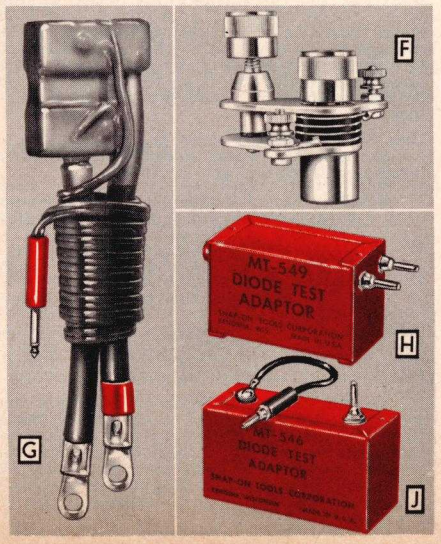
This unit is designed for use with SNAP-ON AVR Testers and MT-701 and MT-702 Alternator, Generator and Regulator test instruments.

MT-354 Battery Cable Extension. 11" long. Use with above adaptor when positive battery cable is short.

Ⓖ AMPERE SHUNTS

Used with AVR Testers when checking current flow from 600–1200 amperes. It is a standard 50 M.V. 1200 ampere external shunt and may be used with any 50 M.V. meter. NOT INCLUDED WITH THE AVR Testers, must be ordered separately.

MT-541C. Use with MT-540C AVR Tester.
MT-541. Use with MT-540B AVR Tester.



DIODE TEST ADAPTORS

These adaptors allow checking alternator diodes without disconnecting them from the stator windings. The adaptor plugs into jacks on the AVR Tester and voltmeter leads are connected to the adaptor and the diodes. A good diode will check high resistance or no current flow in one direction and show current flow in the other. A shorted diode shows the same flow in both directions.

Ⓗ **MT-549 Adaptor** for MT-540C AVR Tester.

Ⓙ **MT-546 Adaptor** for MT-540B AVR Tester.

LEADS AND ADAPTORS

MT-356A Terminal Adaptor Set. Use with either model AVR Tester to attach test leads to alternator system components, including regulators connected by molded plugs. Set includes one jumper, one double male and four male-female adaptors. Can also be used with our MT-701 and MT-702 page 146.

MT-352 Ford Alternator-Regulator Adaptor.
MT-353 G.M. Delco-Remy Delcotron Adaptor.
MT-359 Set. Includes the MT-356A, MT-352 and MT-353 Adaptors above.

Sets of 15-foot battery, ammeter and voltmeter leads.
Provide working length for tests on buses and trucks, including diesels.

MT-548 Set for MT-540C AVR Tester, above.
MT-543A Set for MT-540B AVR Tester, at left.
MTC-7 Vinyl Cover for MT-540C AVR Tester.

Note: See Special Instrument Stand — page 149.

Snap-on PRECISION TUNE-UP INSTRUMENTS

DIAGNOSE TROUBLES EASILY, QUICKLY, POSITIVELY—PUT THE PROFIT TUNE IN TUNE-UP



INSTRUMENTS WITH PLUS FEATURES

Jewelled bearings provide needle accuracy . . . Extra long leads stretch across the widest fenders . . . Silverplated switch terminals give resistance-free performance . . . Anti-static dial coating prevents needle float . . . These self-contained meters use simple batteries or the current of the engine . . . Study steel cases have red enamel finish, top panel is black bakelite . . . **Note:** MT-730 has a black bakelite case . . . Easy to read dials with clear figures and calibrations . . . Firm gripping alligator clips that won't slip off . . . Meters are light and portable for in-the-shop or on-the-road service . . . Instruction booklets are easy to understand . . . Meter has handle on top and rubber feet.

Ⓐ ALTERNATOR-REGULATOR TESTER

MT-702 Alternator-Generator-Regulator Tester. Tests all 6 or 12-volt generating systems on cars and trucks equipped with alternators or D.C. generators. **Ohmmeter** for testing diodes and for continuity checks. It will show up resistance as low as one Ohm or up to 500 Ohms.

Dual Range Voltmeter with a 20-volt scale in .2 volt increments for checking voltage regulator settings and a 2-volt scale in .02 volt increments for measuring voltage drops throughout the charging circuit wiring.

Dual Scale Ammeter with a scale range of 100 amperes in one ampere increments for checking maximum output of the alternator generator and a 10 ampere scale in .1 ampere increments for measuring field current. External ammeter shunt near the lead ends minimizes voltage drop. One battery operates the tester.

Ⓑ TACH-DWELL METER

MT-715 Combination Tach Dwell Meter. Combines the jobs of a tachometer and a distributor tester. Checks engine speed and dwell readings with one simple hookup of extra-long 8-foot leads. Detects a variety of distributor mechanical faults. Can be used for determining point resistance and setting points at cranking speed.

High-low range tach scales (1-1000 r.p.m. and 0-5000 r.p.m., allow more accurate low-speed indications. Can be used on 6, 12 or 24-volt systems on any 4, 6 or 8-cylinder engine.

Separate dwell scales in 2° increments for 6 and 8 cylinder engines. One battery operates the meter.

Opens the door to such high-profit jobs as automatic transmission adjustments and carburetor work.

Ⓒ EXHAUST GAS ANALYZER

MT-705 Exhaust Gas Analyzer. Provides an excellent way to check engine efficiency after tune-up. Specially designed analyzing cell measures air-fuel ratio to spot troubles such as improper carburetor adjustment, fouled plugs, air leaks, vapor locks, clogged muffler, stuck heat riser, inoperative accelerator pump, improper timing — even bad driving habits.

Battery-operated, this unit is completely portable permitting accurate analysis under all operating conditions — in the shop or on the road. A timer shuts it off automatically after eight minutes of operation and extends battery life.

Analyzing cell mounts on bumper close to tail pipe providing instantaneous response. This rear cell assembly is rugged, it will not "drown out" or "freeze-up" due to moisture. A 20-foot conductor cable leads to the indicating instrument.

Two color-coded scales permit fast, easy use on both gasoline and liquid petroleum-type engines.

Ⓓ IGNITION ANALYZER

MT-730 Ignition Analyzer. A dual-scale ohmmeter and ohmmeter tests primary coil efficiency; secondary coil efficiency; coil heat; stalled motor coil current; capacitor efficiency; secondary coil resistance; capacitor leakage; coil polarity; ignition efficiency; plug msfiring; ballast resistor continuity; motor idle currents.

Scale increments. R X 1 scale reads 0 to 300,000 Ohms with mid-scale reading of 10,000 ohms. **R X 10** scale reads 0 to 3 Meg Ohms (3,000,000 Ohms) with mid-scale reading of 100,000 ohms. **Amp scale** reads 0 to 1.5 Amps. in .05 amp. increments and 0 to 6 amp. in .2 amp. increments. Neon indicator flashes to show exact spark plug gap setting for secondary efficiency readings.

Analyzer is furnished with 22½ volt Mallory type mercury battery, special distributor adaptor, an MT-16 timing light jack, two fibre insulators and a 3' jumper wire with clips.

Ⓔ AUTOMOTIVE OHMMETER

MT-704 Ohmmeter. For measuring resistance of various automotive electrical components such as coils, resistance wiring, ballast resistors and diodes. When excessive resistance exists in these components or in other wiring, the ignition or charging system may operate improperly. This new ohmmeter can be used to measure existing resistance to spot trouble quickly and accurately. The unit can also be used for continuity tests and to locate open circuits in components and in wiring.

The dial has red calibration numbering at 0, 5, 10, 15, 25, 50, 100, 200, 300, 500 and infinity, with black sub-divisions for most of the scale. Three ranges are provided, the RX1 range provides direct reading in ohms; RX10 multiplies the dial reading by ten and RX100 multiplies the reading by 100. Lead clips have color coded boots so that polarity can be observed when testing diodes and transistors.

One 1.5 volt battery powers the unit and is easily replaced when necessary. Complete testing instructions are included.

Ⓕ GENERATOR-REGULATOR TESTER

MT-701 Generator-Regulator Tester, has a 17 volt range for popular cars and trucks, and a 60 volt range for heavy duty ignition systems of more than 12 volts. The 60 ampere range handles any passenger car or truck in service today. No additional equipment is needed to test full generator output without damage to the tester. The built-in polarity switch makes fast, accurate readings possible.

No adjustments or changes in hook-ups are required . . . Simply flip the switch to obtain the correct reading. One voltage scale provides readings in both the 15 and 60 volt ranges. No computations or allowances are required, the meter reading is the complete answer. Tester is furnished with 6 foot leads. No batteries needed.

Ⓖ VACUUM AND FUEL PUMP GAUGE

MT-725 Vacuum and Fuel Pressure Gauge. Instrument housed in handsome black plastic case with convenient carrying handle. Detects a wide line of engine troubles from leaky manifolds to weak valve springs.

Vacuum Scale. Shows up to 28 inches of mercury in one and five inch increments and metric calibrations up to 700 cm., Hg., in twenty and one-hundred mm., increments.

Fuel Pump Pressure Scale. Shows up to 10 p.s.i. in half and one p.s.i., increments, in metric it shows up to 700 g/cm² in 50 g/cm² increments.

Dial increments are plainly marked for fast and easy reading. Included with the gauge is a ten foot rubber tube and one each of the accessories listed below.

MT-425-11	10' Rubber Tube
MT-12-10	⅛" pipe thread adaptor
MT-12-12	½"-20 thread adaptor
MT-14-6	¼" x 18 pipe thread
MT-14-7	⅛" pipe, 7/16"-24 adaptor
MT-14-8	½"-20 thread adaptor
MT-14-9	7/16"-24 thread adaptor
MT-14-10	⅛" pipe thread, 3-way
MT-14-11	hose coupling
MT-14-12A	Tube coupling
MT-14-13	7/16"-24 thread adaptor
MT-14-14	⅝"-18 thread adaptor
MT-14-15	⅝"-18 thread adaptor
MT-14-16	Special "T" adaptor

METER RACK

KRA-419 Meter Rack. Designed to hold any three of the instruments shown above. The back panel has holes that accommodate the rubber feet of the meters. Leads from the meters enter slots in the rack and can be stored within the rack . . . or can be brought out under the front of the rack and stored in the drawer sections shown on page 151.

A cowling with brushed aluminum finish fits over the meter handles to hold the meters securely on the rack. Two thumb screws attach the cowling to the rack. Meters can be removed quickly if necessary. The rack is finished in rich red enamel with the sloping front panel a dull black to harmonize with the black face plates of the instruments. It is designed as a matching unit to the Anal-O-Scope shown opposite and to the AVR Tester shown on page 144 and can be used in combination with these units on the Roll-Cab and Mounting Drawer Sections described on page 151. Above illustration shows the Meter Rack with meters in position.

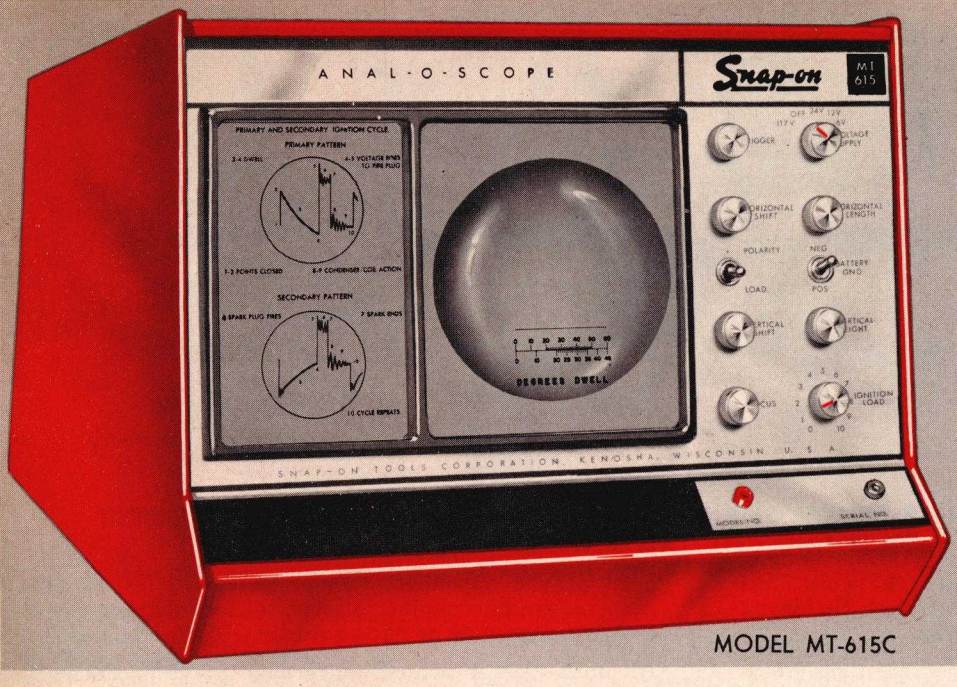
Ⓗ TUNE-UP INSTRUMENT SET

MT-7003 Tune-up Instrument Set. Shown above, this set consists of three of the most popular of the meters described on this page, MT-702 Alternator-Generator Tester, MT-715 Tach-Dwell Meter, MT-730 Ignition Analyzer and the KRA-419 Meter Rack.

INSTRUMENT SET COVER

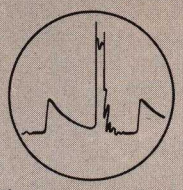
MTC-8 Cover. Durable Vinyl, waterproof, fire resistant, dust-proof, attractive and easily cleaned. Transparent front displays the instruments while protecting them.

Snap-on® ANAL-O-SCOPE SHOWS THE PROFIT PICTURE

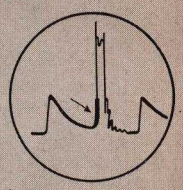


MODEL MT-615C

THE PATTERN TELLS THE STORY

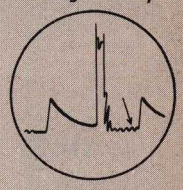


This is a normal pattern as it appears on the tube. Variations indicate troubles.



This pattern indicates that the contact points are not breaking cleanly.

Forty-four pattern variations shown in the instruction book pinpoint many specific engine malfunctions. Test procedures are fully explained.



This pattern variation shows there is resistance in the primary circuit.

TIME SAVED LOCATING TUNE-UP TROUBLES PUTS PROFIT IN YOUR POCKET

MT-615C SNAP-ON Deluxe Anal-O-Scope. Shows a pattern on a TV-type screen that, by variations from normal, indicates precisely what the trouble is in the ignition system of any engine with battery or magneto operation. A perfectly normal pattern means a properly working ignition system. If trouble exists, the part of the picture that is distorted pinpoints the trouble spot. In addition, any part of the picture can be magnified for viewing in great detail.

The SNAP-ON Anal-O-Scope provides two basic patterns. One is a direct reading of the primary circuit, the other a direct reading of the secondary circuit. Both patterns are obtained with one simple hook-up. The scope can be switched from the primary pattern to the secondary pattern at will by simply turning a knob. This direct reading feature shows each circuit in great detail.

The Anal-O-Scope is designed and built to handle both standard, transistor or magneto ignition systems.

The patented ignition reserve test is just one of the exclusive features found on the Anal-O-Scope. This test puts a calibrated load on the ignition electronically to simulate an actual road test. This spots faults that would not show up on an ordinary scope and is excellent for proving out work after the tune-up has been completed.

The Anal-O-Scope will work either off the test vehicle's own 6, 12 or 24 volt power supply or standard 115 A.C. This means complete portability and eliminates the possibility of interference from other electrical equipment when using 115 volt shop power.

Detailed instruction manuals plus simplified testing and hook-up procedures make the Anal-O-Scope easier than ever to use. A hook-up of five leads is all that is required to test both the primary and secondary systems. An exclusively designed viewing panel with two illustrations showing ideal primary and secondary patterns also makes testing easier. Large, clearly marked knobs make pattern adjustments fast and easy. Instrument measures 12½" high, 16" wide, 19½" deep.

The SNAP-ON ultra-modern Anal-O-Scope pinpoints trouble faster and often detects trouble either difficult or impossible to detect with other equipment. This means more jobs done in less time for greater profits — fewer comebacks — greater customer satisfaction.

TESTS WHICH CAN BE PERFORMED

- Ignition Reserve Capacity
- Ignition Timing
- Coil Polarity
- Spark Plug Action
- Secondary Circuit Resistance
- Secondary Circuit Leakage
- Condenser Resistance
- Battery to Coil Resistance
- Coil to Ground Resistance
- Breaker Point Resistance
- Point Closing Faults
- Point Opening Faults
- Cam Angle Measurement
- Primary Circuit Leakage
- Point Bounce
- Distributor Wear
- Condenser Faults
- Valve Action



SECONDARY CIRCUIT ADAPTOR

MT-626 Adaptor. Lets you make accurate tests with your Anal-O-Scope through the secondary circuit. This is very necessary on transistor ignition systems as many have unknown circuitry or components. Also accurate secondary circuit information must be gained through the secondary circuit when high ratio coils are encountered. Included with Model MT-615C Anal-O-Scope shown above. Available as an optional unit for owners of previous Anal-O-Scope Model MT-615B.

EXCLUSIVE FEATURES

1. Easy-to-understand pattern — shows complete firing cycle. Patented features provide complete primary and secondary circuit information. Pattern is more detailed and contains more information.

2. Patented Ignition Reserve Test — electrically loads ignition system to determine if car has necessary power reserve for high speed and varied road conditions. Lets you do in the shop what others must do on the road.

3. Universal Power Supply — operates on ordinary house current of 110–120 volts A.C. or directly off the car battery, 6, 12 or 24 volt. No power pack needed. Fully protected by fuses.

4. Simple Hook-up — only three leads to hook up plus power connection.

5. Big Pattern — can be amplified vertically or horizontally to show any part of a cylinder or all cylinders at one time.

6. Nothing Else to Buy — a most important feature. There are no hidden "extras" as with other equipment. Everything you need is furnished as a complete package ready to go to work. For the complete set see the listing below and illustration in next column.

7. Completely Portable — another plus feature, you can use it in the shop or out on the road since it works on battery systems with its built-in power pack.

8. Easy to Understand — the *ANAL-O-SCOPE* presents a trace pattern on the "picture tube." Deviations from the normal pattern indicate exactly where and what is the nature of the trouble. All such possible deviations are diagrammed in the instruction book which explains use of the instrument.

9. Detachable Leads — in case of damage to the leads it is not necessary to rewire inside the instrument. Individual leads are easily replaced in the four-prong jack.

ACCESSORIES INCLUDED

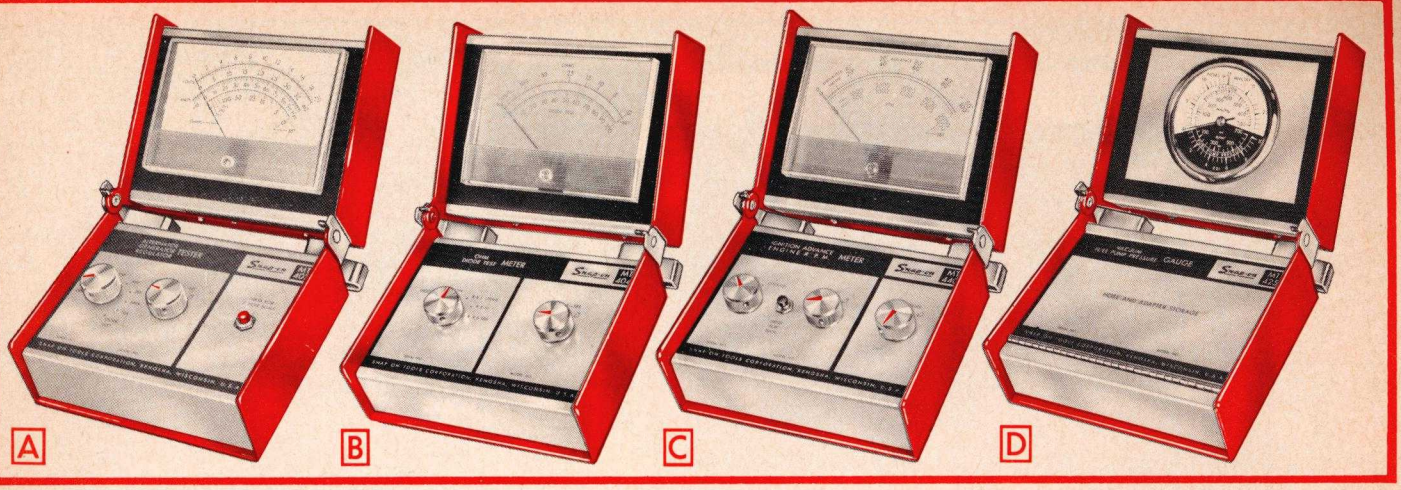
Accessories furnished include the connection lead harness, 8 flexible spark plug adaptor jacks, 1 insulated jumper wire, 1 high tension jumper cable, 1 power-type timing light, 1 timing light jack, 3 spark plug adaptors, 1 gapped distributor adaptor, 1 ignition fault finder, 1 insulating rubber glove, 2 extra 1-amp fuses, 2 extra 8-amp fuses, 1 kit bag, 1 operating manual.

The MT-626 Secondary Circuit Adaptor, listed below, is also included with the MT-615C Anal-O-Scope.

OPTIONAL GLARE SHIELD

MT-624 Glare Shield. Keeps light away from the Anal-O-Scope screen and provides greater visibility of trace pattern. Three-sided in shape, it has two hooks that slip into holes designed into the screen face bezel. Finished in dull black inside and outside.

Snap-on® MATCHED METERS HELP SELL YOUR SERVICE



THESE MODERN METERS HELP DELIVER THE MAXIMUM PERFORMANCE CUSTOMERS EXPECT

On today's high powered automotive engines it is not enough to be close on critical tune-up adjustments. The work must be exact to deliver the maximum performance customers expect and to prevent customer comebacks.

With SNAP-ON ultra modern, highly accurate tune-up instruments you can pinpoint trouble areas quickly — then make adjustments or parts replacement fast, accurately and with complete confidence.

The operational construction and circuitry of each unit has been proved dependable under extensive testing and is designed to do a number of tune-up jobs quickly and efficiently in the shop or on the road.

All units have matching appearance enabling you to start with the minimum and build as extensive a center as you wish. Yet each is completely self-contained. Detailed instructions explain hook-up and test procedures.

Ⓐ MT-402C ALTERNATOR TESTER

Test the performance of alternators, generators, regulators, and accessory circuits with this very versatile tester. The MT-402C contains a multi-range voltmeter, dual-range ammeter and a multi-range ohmmeter. A simple flick-of-the-switch selects the desired function and range . . . no adjustments or changes in hook-up required. A dual purpose external ammeter shunt near the end of its extra long 10 ft. leads practically eliminates voltage loss for extreme accuracy. A must for efficient tune-ups.

TESTS WHICH CAN BE PERFORMED

- Alternator Output
- Generator Output
- Alternator Field Current
- Diode Efficiency
- Electrical Continuity
- Electrical Short Circuit
- Ignition By Pass Circuit
- Ballast Resistor Check
- Cranking Voltage
- Resistance Tests
- Voltage and Amp Readings

SPECIFICATIONS

Case dimensions: open 7⅝" wide, 13¼" high, 8¼" deep. closed 7⅝" wide, 9¼" high, 5" deep.

Voltmeter ranges: 0–2 (.02 V. divisions), 0–20 (.2 V. divisions), 0–40 (.5 V. divisions).

Ammeter ranges: minus 1–10 (.1 amp. divisions), minus 10–100 (1 amp. divisions).

Ohmmeter ranges: 0–infinity.

Ⓑ MT-404C OHMMETER

Designed specifically for the specialized needs of automotive service, the MT-404C Ohmmeter has the capacity to quickly and easily check various electrical resistances found on passenger cars and trucks. Automotive electrical components all have normal resistances which should agree with manufacturers' specifications. Excessive resistance often causes the ignition or charging system to operate improperly.

TESTS WHICH CAN BE PERFORMED

- Resistance in primary circuit
- Resistance in coils
- Diode efficiency
- Resistance in secondary circuit
- Electrical continuity
- Check transistors
- Check ballast resistors
- Resistance in accessory circuits

SPECIFICATIONS

Case dimensions: open 7⅝" wide, 13¼" high, 8¼" deep. closed 7⅝" wide, 9¼" high, 5" deep.

Power requirements: One "D" size flashlight battery.

Scale divisions: 0–500 — infinity ohms (divisions as low as 1 ohm).
0–5000 — infinity ohms (divisions as low as 10 ohms).
0–50,000 — infinity ohms (divisions as low as 100 ohms).
0–100 diode test (1 division).

Ⓒ MT-440C ADVANCE METER

No more wasted time removing or reinstalling the distributor to make advance tests. This extremely accurate, portable meter will check vacuum or mechanical advance of the distributor while it is on the car. The top scale of the MT-440C measures engine and distributor advance. Engine and distributor RPM is read on the bottom scale and is obtained by simply depressing the "tach button." Included with the MT-440C is an easy-to-use pick-up unit. A strong magnetic base allows this unit to be mounted on any flat surface near the engine vibration damper, pulley, or flywheel.

TESTS WHICH CAN BE PERFORMED

- Mechanical Advance
- Vacuum Advance
- Engine R.P.M.

SPECIFICATIONS

Case dimensions: open 7⅝" wide, 13¼" high, 8¼" deep. closed 7⅝" wide, 9¼" high, 5" deep.

Distributor Advance Scale: 0–50° (1° divisions).

Engine Advance Scale: 0–100° (2° divisions).

Distributor R.P.M. Scale: 0–2500 (50 R.P.M. divisions).

Engine R.P.M. Scale: 0–5000 (100 R.P.M. divisions).

Ⓓ MT-425D VACUUM GAUGE

A highly accurate, compact vacuum and fuel pressure gauge with which you will be able to detect a wide variety of troubles in both domestic and foreign made engines. Top portion of the case contains the gauge with vacuum measured on the top scale and fuel pump pressure measured on the lower scale. The lower portion of the case is a 7½" x 5½" x 1¾" storage area for gauge accessories. Included are a 10 ft. rubber hose, and fourteen vacuum gauge adaptors, shown and listed on page 142.

TESTS WHICH CAN BE PERFORMED

- Valve leakage
- Valve timing
- Intake system leakage
- Vacuum booster pump
- Fuel pump vacuum
- Exhaust back pressure
- Sticky valves
- Broken valve springs
- Fuel pump pressure
- Vacuum operated accessories

SPECIFICATIONS

Case dimensions: open 7⅝" wide, 13¼" high, 8¼" deep. closed 7⅝" wide, 9¼" high, 5" deep.

Vacuum Gauge Capacity: 0–28 inches mercury (1 inch divisions). 0–700 millimeters mercury (20 mm. and 100 mm. divisions).

Fuel Pressure Gauge Capacity: 0–10 lbs. per sq. inch (½ lb. divisions). 0–700 grams per sq. centimeter (50 gram cent. divisions).

OWN YOUR OWN PROFIT BUILDING TUNE-UP CENTER



BUILD A COMPLETE TUNE-UP CENTER ON A MATCHED UNIT PLAN
General features of the instrument on this and the opposite page.

- **Large open face, 6" meters with long, color-zoned scales for easier and accurate readings.**
- **Folding case enables setting the meter at any angle for easy viewing and provides complete protection for the meter when not in use.**
- **Nickel-chrome plated steel handles form a bracket on the ends to provide winding storage for the 9-foot long leads.**
- **Leads exit from the back of the case to present a clean uncluttered appearance.**
- **Red enamel case contrasts nicely with the brushed aluminum cover plates, and large circular control knobs add to the modern appearance.**
- **Rubber feet help prevent slipping or marring of any surface on which the unit is placed.**

(E) MT-405D COMBUSTION ANALYZER

A completely portable unit for in shop or on-the-road tests of carburetion and fuel systems of gasoline and LP type engines. Specially designed analyzing cells measure air-fuel ratio while color-coded scales on the large 6" meter face indicate whether the mixture is rich, normal or lean. Analyzing cells mount on rear bumper next to tailpipe giving instantaneous reading of mixture changes. Rear cell assembly and meter are connected with 20 ft. conductor cable. A foolproof way of demonstrating carburetion efficiency to a customer after tune-up.

TESTS WHICH CAN BE PERFORMED

- **Idle Mixture**
- **Cruising Mixture**
- **Intake Manifold Air Leak**
- **Accelerator Pump Action**
- **Exhaust System Back Pressure**

SPECIFICATIONS

Case dimensions:
open 7⅝" wide, 13¼" high, 8¼" deep.
closed 7⅝" wide, 9¼" high, 5" deep.
Relative efficiency scale:
65%–93%.
Power requirements:
four "D" size flashlight batteries.

(F) MT-414C TACH DWELL METER
For Testing Off The Primary Circuit

Combines the jobs of a tachometer and a distributor tester. Checks engine speed and dwell readings with one simple hook-up of the leads. Can be used on any 4, 6 or 8 cylinder engine with 6, 12 or 24-volt standard, transistor or magneto ignition system. Engine r.p.m. can be measured at either operating or cranking speeds. Control knob switches from one scale to the other for fast reading. Low range permits more accurate readings at cranking speeds.

TESTS WHICH CAN BE PERFORMED

- **Engine R.P.M. checks**
- **Cylinder balance**
- **Breaker point resistance**
- **Transmission shift points**
- **Cam angle measurement**

SPECIFICATIONS

Case dimensions:
open 7⅝" wide, 13¼" high, 8¼" deep.
closed 7⅝" wide, 9¼" high, 5" deep.
Power requirements:
Three standard size "C" flashlight batteries.
Dwell scales:
6 cylinder (2 degree divisions).
8 cylinder (1 degree divisions).
Tach scales:
0–1,000 (10 R.P.M. divisions).
0–5,000 (20 R.P.M. divisions).
Lead length:
9 feet.

(G) MT-415C TACH-DWELL METER
For Testing Off The Secondary Circuit

A highly accurate, completely portable unit featuring transistorized circuitry. The MT-415C can be used on any 2 or 4 cycle engine equipped with a 6, 12, or 24 volt standard, transistor, or magneto ignition system. With just one simple hook-up, engine R.P.M. can be measured at either cranking or operating speeds. Tach scale features a high and low range — switching from one range to the other is fast and easy with one large control knob. Independent dwell scales are provided for 6 and 8 cylinder engines with 4 cylinder readings taken off the 8 cylinder scale.

TESTS WHICH CAN BE PERFORMED

- **R.P.M. checks**
- **Cylinder balance**
- **Breaker point resistance**
- **Transmission shift points**
- **Cam angle measurement**

SPECIFICATIONS

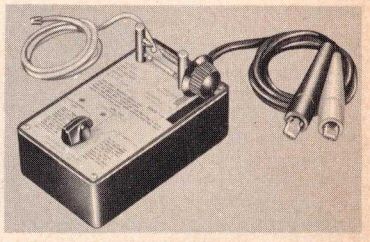
Case dimensions:
open 7⅝" wide, 13¼" high, 8¼" deep.
closed 7⅝" wide, 9¼" high, 5" deep.
Power requirements:
One 2U-6 nine-volt radio type battery.
Dwell scales:
6 and 8 cylinder (1 degree divisions).
Tach scales:
300–1,200 (10 R.P.M. divisions).
1,200–4,800 (100 R.P.M. divisions).
Lead length:
10 feet.

(H) TEST INSTRUMENT ROLL STAND

KRA-416C Roll Stand. Designed to hold the model MT-540C AVR Tester shown on page 144 or by adding the KRA-449 Meter Mounting Tray, it will hold two of the meters above and opposite. (Meter Tray is not included.) The instruments are held at a convenient working angle and height. The stand has a useful tray and lead hooks. It has a heavy base of 24" leg span and 4 swivel casters. The low center of gravity gives excellent support and balance.

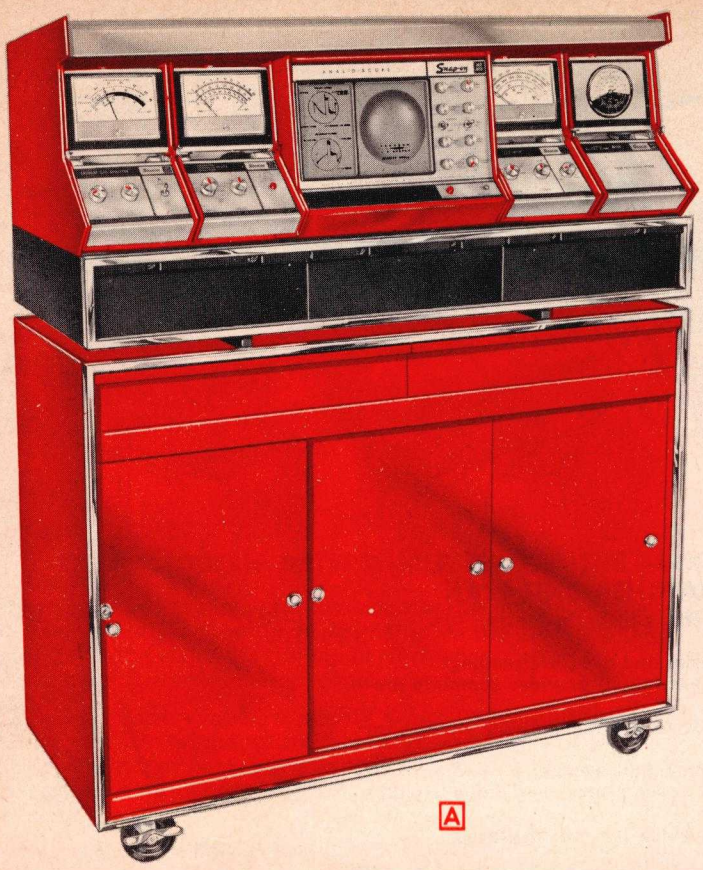
(J) **KRA-449 Meter Mounting Tray.** Clamps to the above stand and holds two meters.

KRA-409 Handle. For above meter tray.



COIL-CONDENSER TESTER

MT-335 Coil and Condenser Tester. Works off 6, 12 or 24 volt systems. Tests condensers and magnetos on the engine. Tests coils without disassembly, running the engine or using distributor. Neon indicating light warns when electrodes are "hot." Three-position switch permits condenser, coil or heat tests. A 6 ampere fuse protects electrical system if leads are connected wrong. Black bakelite case is 6¼" x 3¾" x 2". 3½ foot leads have boot covered clips. High tension lead is insulated for 20,000 volts. Instructions included.



Ⓐ



Ⓑ

Snap-on® DELUXE TUNE-UP CENTER

THE FINEST IN AUTOMOTIVE TUNE-UP EQUIPMENT

Step up to the ultimate in a complete automotive tune-up center. Engineered in the SNAP-ON tradition, these tune-up centers enable you to diagnose potential trouble areas in all makes of cars, trucks, buses . . . any vehicle powered by a gasoline or LP engine.

Without a doubt, this is the smartest, most modern tune-up equipment on the market. Its bold styling and red and black finish with stainless steel trim will impress your customers and remain "modern" for many years to come.

Each Tune-up Center is composed of the independent, self-contained units described on previous pages, each removable for use inside or outside the shop. The "heart" of the above Tune-up Centers is the versatile MT-615C Anal-O-Scope. It is the only scope on the market with the patented ignition reserve test. It provides a direct reading of both primary and secondary circuits, operates off the vehicle's battery or standard AC 115 volt power . . . just a few of its many features.

Units are mounted on a Console consisting of an illuminated cowl, meter trays, mounting drawer section and Roll-Cab. The heavy duty Roll-Cab provides ample room for wrenches, hand tools, and other equipment. The mounting section features drawers for leads, clips, and accessories. Rubber-lined slots in front allow the leads to protrude from closed drawers.

Ⓐ MT-4063 MASTER CENTER

This complete Tune-up Center consists of five instruments. The MT-615C Anal-O-Scope, MT-402C Alternator-Generator-Regulator Tester, MT-405D Combustion Analyzer, MT-414C Tach Dwell Meter and MT-425D Vacuum Gauge. All are fully described on previous pages.

All units are mounted on a 48" Master console consisting of the KRA-455 Roll-Cab, KRA-456 Mounting Drawer Section, KRA-458A Illuminated Cowling and two KRA-449 Meter Mounting Trays. The large heavy duty Roll-Cab provides plenty of storage space for tools and accessories.

Ⓑ MT-4064 UTILITY CENTER

This highly impressive tune-up center is most versatile. It retains many features of the Master Center and consists of the MT-615C Anal-O-Scope, MT-402C Alternator-Generator-Regulator Tester and MT-414C Tach Dwell Meter mounted on a 32" console.

The console includes the KRA-450 Roll-Cab, KRA-451 Mounting Drawer Section, KRA-453A Illuminated Cowling and one KRA-449 Meter Mounting Tray. The complete specifications for the Roll-Cabs and Drawer Sections are given on the next page. Some of the possible uses are listed below.

SOME OF THE TESTS THAT CAN BE PERFORMED

WITH TUNE-UP CENTER	Ⓐ	Ⓑ	WITH TUNE-UP CENTER	Ⓐ	Ⓑ
• Ignition Reserve Capacity	√	√	• Cylinder Balance	√	√
• Ignition Timing	√	√	• Alternator Output	√	√
• Coil Polarity	√	√	• Generator Output	√	√
• Spark Plug Action	√	√	• Alternator Field Current	√	√
• Secondary Circuit Resistance	√	√	• Diode Efficiency	√	√
• Secondary Circuit Leakage	√	√	• Electrical Continuity	√	√
• Condenser Resistance	√	√	• Electrical Short Circuit	√	√
• Battery To Coil Resistance	√	√	• Ignition By-Pass Circuit	√	√
• Coil To Ground Resistance	√	√	• Ballast Resistor Check	√	√
• Point Closing Faults	√	√	• Cranking Voltage	√	√
• Point Opening Faults	√	√	• Resistance Tests	√	√
• Cam Angle Measurement	√	√	• Voltage and Amp. Readings	√	√
• Primary Circuit Leakage	√	√	• Idle Mixture	√	..
• Point Bounce	√	√	• Cruising Mixture	√	..
• Distributor Wear	√	√	• Intake Manifold Air Leak	√	..
• Condenser Faults	√	√	• Accelerator Pump Action	√	..
• Valve Action	√	√	• Exhaust System Back Pressure	√	..
• R.P.M. Checks	√	√	• Fuel Pump Pressure	√	..
• Breaker Point Resistance	√	√	• Fuel Pump Vacuum	√	..
• Valve Leakage	√	..	• Vacuum Operated Accessories	√	..
• Valve Timing	√	..	• Vacuum Booster Pump	√	..



THE NEW LOOK IN MODERN SHOP EQUIPMENT

© MT-4065 BASIC TUNE-UP CENTER

Another popular SNAP-ON Test Center which performs many tune-up services. It consists of the MT-402C Alternator Generator-Regulator Tester, MT-405D Combustion Analyzer; MT-414C Tach-Dwell Meter and MT-425D Vacuum Gauge. These units are mounted on the same 32" console combination as the MT-4061 on the preceding page and includes the KRA-450 Roll-Cab, KRA-451 Mounting Drawer Section, KRA-453A Illuminated Cowling and two KRA-449 Meter Mounting Trays. If you decide to start with this Basic Center and add an MT-615C Anal-O-Scope later it can be mounted in place of two of the above meters which are easily stored in the Roll-Cab when not in use.

TESTS WHICH CAN BE PERFORMED INCLUDE:

- R.P.M. Checks
- Cylinder Balance
- Breaker Point Resistance
- Transmission Shift Points
- Alternator Output
- Generator Output
- Alternator Field Current
- Diode Efficiency
- Electrical Continuity
- Electrical Short Circuit
- Ignition By-pass Circuit
- Valve Leakage
- Valve Timing
- Ballast Resistor Check
- Cranking Voltage
- Resistance Tests
- Voltage and Amp Readings
- Idle Mixture
- Cruising Mixture
- Intake Manifold Air Leak
- Accelerator Pump Action
- Exhaust System Back Pressure
- Vacuum Booster Pump
- Fuel Pump Vacuum
- Fuel Pump Pressure
- Vacuum Operated Accessories

ROLL-CABS AND MOUNTING DRAWER SECTIONS

Roll-Cabs are of heavy gauge steel with reinforced tops, bottoms and corners. Drawers ride on heavy-duty runners. One tumbler lock secures drawers and sliding doors. The KRA-455 Roll-Cab features a special drawer for 8½" x 11" specification cards and manuals. Both Roll-Cabs have a durable red, baked-on enamel finish with stainless steel trim. Four large swivel casters provide easy mobility.

Mounting sections have space for leads, clips, etc. Each drawer is sectioned and fronts have rubber lined lead slots. Attractive "wrought iron" black finish with stainless steel trim. Sections bolt securely to the Roll-Cab.

SPECIFICATIONS

Ⓓ **KRA-456 Section:** 48" wide x 7¼" high x 19⅛".
Drawer Size: 14⅛" x 15⅞" x 43⅜".

Ⓔ **KRA-455 Roll-Cab:** 48" wide x 36½" high x 19⅛".
Drawer Size: 22¼" x 17⅞" x 3 7/16".
Compartment: 46⅝" x 27" x 16¾".

Ⓕ **KRA-451 Section:** 32" wide x 7¼" x 19⅛".
Drawer Size: 14⅛" x 15⅞" x 4⅜".

Ⓖ **KRA-450 Roll-Cab:** 32" wide x 36½" high x 19⅛".
Drawer Size: 14⅜" x 17⅞" x 35⅛".
Compartment: 30¾" x 27" x 17".

OPTIONAL BAR HANDLE FOR ABOVE ROLL-CABS

Ⓗ **KRA-408 Bar Handle.** 18¼" long, ¾" diameter, chrome finish. Both sides of above roll-cab have mounting holes. Bolts provided.

3 & 5 H.P. INTERMEDIATE HEAVY DUTY GENERATOR TEST BENCHES

120 AND 180 AMP. MAXIMUM
COMPLETE TESTING TO MANUFACTURERS' SPECS
CLEAN MODERN STYLING • PRECISION METERS

Quality engineered test benches for testing a wide range of D.C. Generators, Alternators and their regulators on 6–12 and 24 V. systems. Included as standard equipment on both test benches is an Ohmmeter, Diode Tester and A.C. Voltmeter for phase comparison.

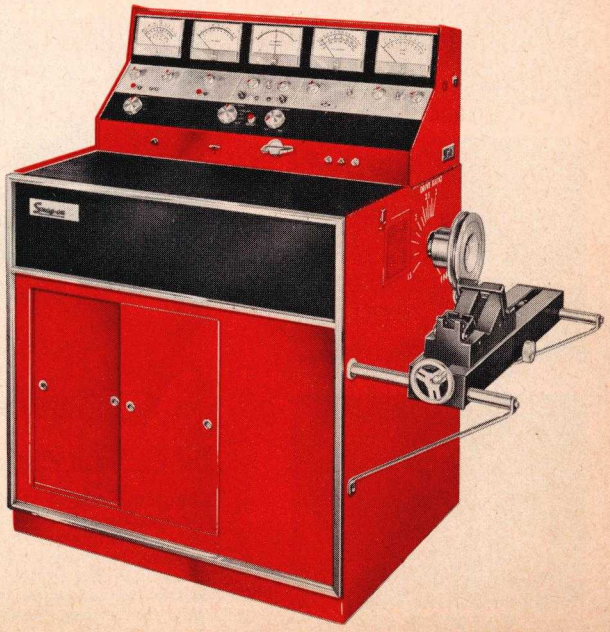
Automotive generators and alternators are belt driven to speeds above 8000 r.p.m. both in clockwise and counter clockwise directions with fingertip speed control. Exact load adjustment is controlled up to maximum generator output. Operator can read precise load being applied at all times.

The test benches have a Duo field control, one for high and one for low field currents, fused for protection. This meter has a 15-0-15 Amp. scale. Field control rheostats are taper wound for smooth control.

Convenient vise mount provides for mounting alternators without clamping, thus eliminating possible damage to die cast housings.

Additional features include: constant duty N.E.M.A. rated motors • forced air cooling for load bank • readings to 1/10 V. for 6 and 12 Volt regulators • convenient storage compartment • leads and adaptors included • 500 W. outlet operated from isolation transformer • heavy welded steel construction • units have attractive baked-on red enamel finish.

MT-1503 3 H.P., 120 Ampere Generator Test Bench
MT-1505 5 H.P., 180 Ampere Generator Test Bench



EDUCATIONAL TOOL SETS AND TRAINING AIDS



VE-1003-S Set of Combination Wrenches on VE-103 Tool Board and KRA-270 Metal Wall Cabinet. Note that duplicate sizes are side by side and not stacked on a single peg . . . it's the best way to spot missing tools.

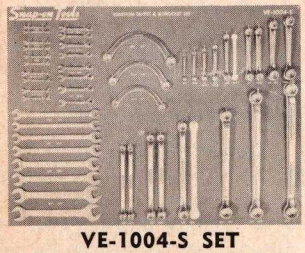
These SNAP-ON Tool Boards and special wall cabinets not only promote neatness in your shop, they help you spot missing tools instantly. White shape on board behind tool stands out if a tool isn't replaced. You get a quick check of your tool inventory before class is dismissed.

Developed jointly by SNAP-ON's educational division and vocational school educators, these boards are part of a new educational service program.

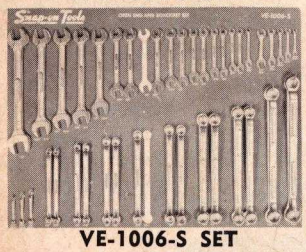
Other student training developments are the simulators wherein faults in ignition, wheel alignment, etc. are simulated with specially designed SNAP-ON equipment.

These units enable instructors to teach techniques of trouble shooting in a few hours instead of days and in a quiet classroom.

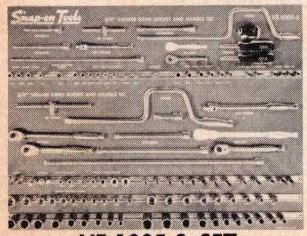
ASK ABOUT THE COMPLETE RANGE OF EDUCATIONAL SETS ON BOARDS



VE-1004-S SET



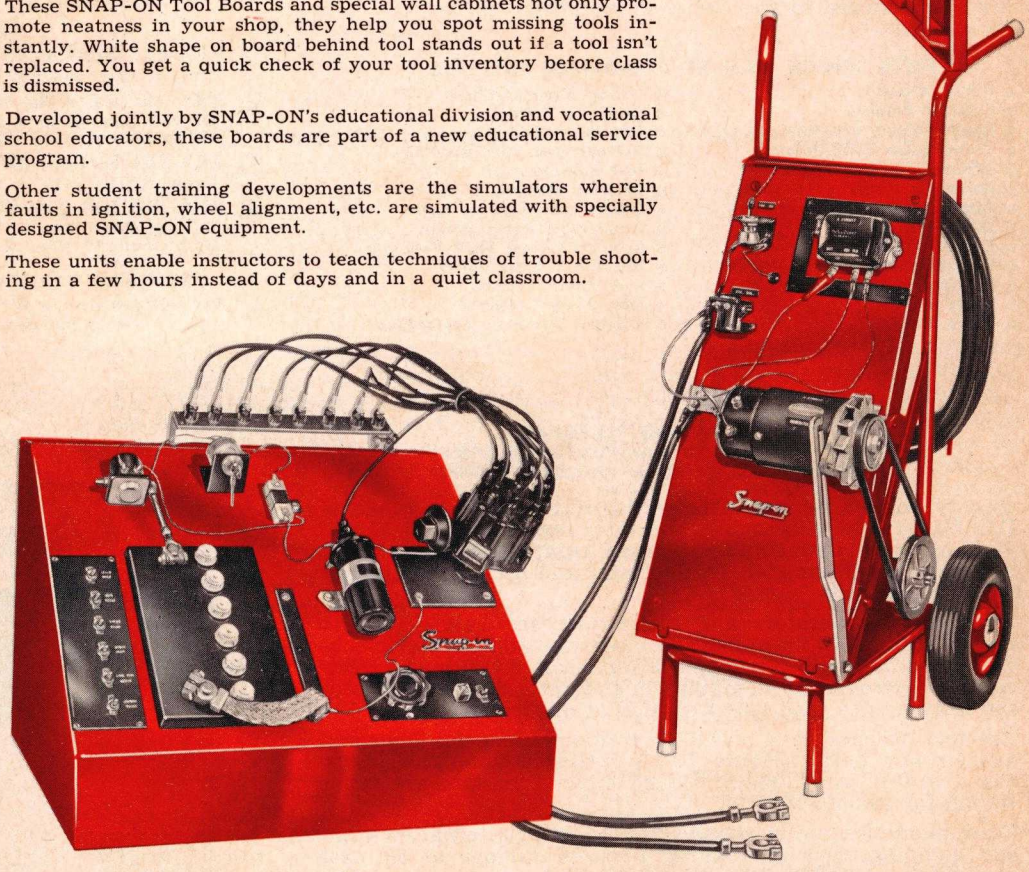
VE-1006-S SET



VE-1005-S SET



VE-1007-S SET



FAULT SIMULATORS HELP TEACH TROUBLE-SHOOTING TECHNIQUES FAST

Simulator VE-14 duplicates a working ignition system. Its self-contained drive unit for the distributor includes an ignition by-pass circuit. Switches permit instructor to put faulty components into the system. Unit can be used to show distributor advance test and used with a timing light for timing checks.

AVR simulator VE-13 operates on 110-volt circuit and provides 25 to 30 amp output on generators and alternators for realistic tests. Unit includes a Delcotron alternator and matching regulator as well as an "A" circuit Delco generator and regulator. It handles all alternator makes. All charging circuit tests and adjustments can be made.

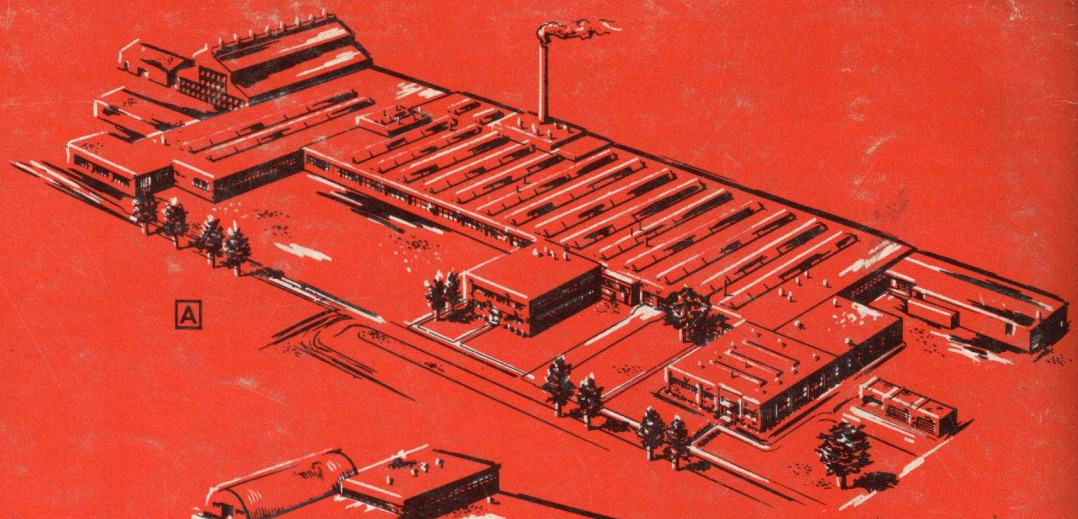
CONVERSION CHART SHOWING MILLIMETER SIZES, FRACTIONAL AND DECIMAL INCH SIZES AND NUMBER DRILL SIZES

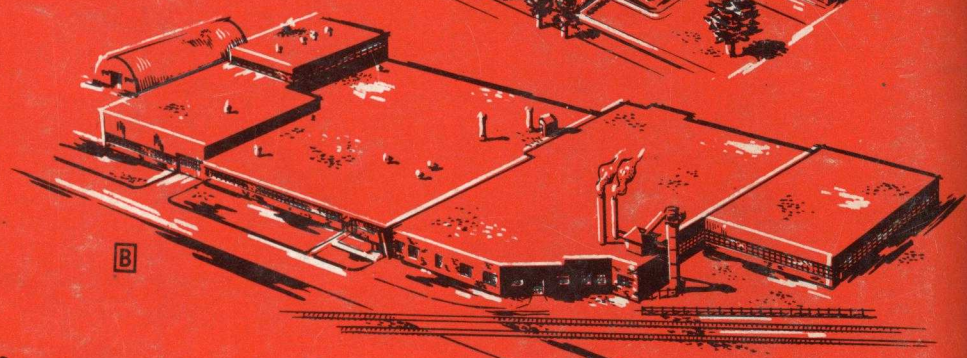
Milli-Meter	Dec. Equiv.	Frac-Tional	Num-ber	Milli-Meter	Dec. Equiv.	Frac-tional	Num-ber	Milli-Meter	Dec. Equiv.	Frac-tional	Num-ber	Milli-Meter	Dec. Equiv.	Frac-tional	Num-ber	Milli-Meter	Dec. Equiv.	Frac-tional
.1	.0039			1.75	.0689			....	.1570		22	6.8	.2677			10.72	.4219	27/64
.15	.0059			....	.0700		50	4.0	.1575			6.9	.2716			11.0	.4330	
.2	.0079			1.8	.0709			....	.1590		21	....	.2720		I	11.11	.4375	7/16
.25	.0098			1.85	.0728			....	.1610		20	7.0	.2756			11.5	.4528	
.3	.0118			....	.0730		49	4.1	.1614			....	.2770		J	11.51	.4531	29/64
....	.0135		80	1.9	.0748			4.2	.1654			7.1	.2795			11.91	.4687	15/32
.35	.0138			....	.0760		48	....	.1660		19	....	.2811		K	12.0	.4724	
....	.0145		79	1.95	.0767			4.25	.1673			7.14	.2812	9/32	....	12.30	.4843	31/64
.39	.0156	1/64	...	1.98	.0781	5/64	...	4.3	.1693			7.2	.2835			12.5	.4921	
.4	.0157			....	.0785		47	....	.1695		18	7.25	.2854			12.7	.5000	1/2
....	.0160		78	2.0	.0787			4.37	.1719	11/64	...	7.3	.2874			13.0	.5118	
.45	.0177			2.05	.0807			....	.1730		17	....	.2900		L	13.10	.5156	33/64
....	.0180		77	....	.0810		46	4.4	.1732			7.4	.2913			13.49	.5312	17/32
.5	.0197			....	.0820		45	....	.1770		16	....	.2950		M	13.5	.5315	
....	.0200		76	2.1	.0827			4.5	.1771			7.5	.2953			13.89	.5469	35/64
....	.0210		75	2.15	.0846			....	.1800		15	7.54	.2968	19/64	...	14.0	.5512	
.55	.0217			....	.0860		44	4.6	.1811			7.6	.2992			14.29	.5625	9/16
....	.0225		74	2.2	.0866			....	.1820		14	....	.3020		N	14.5	.5709	
.6	.0236			2.25	.0885			4.7	.1850		13	7.7	.3031			14.68	.5781	37/64
....	.0240		73	....	.0890		43	4.75	.1870			7.75	.3051			15.0	.5906	
....	.0250		72	2.3	.0905			4.76	.1875	3/16	...	7.8	.3071			15.08	.5937	19/32
.65	.0256			2.35	.0925			4.8	.1890		12	7.9	.3110			15.48	.6094	39/64
....	.0260		71	....	.0935		42	....	.1910		11	7.94	.3125	5/16	...	15.5	.6102	
....	.0280		70	2.38	.0937	3/32	...	4.9	.1929			8.0	.3150			15.88	.6250	5/8
.7	.0276			2.4	.0945			....	.1935		10	....	.3160		O	16.0	.6299	
....	.0292		69	....	.0960		41	....	.1960		9	8.1	.3189			16.27	.6406	41/64
.75	.0295			2.45	.0964			5.0	.1968			8.2	.3228			16.5	.6496	
....	.0310		68	....	.0980		40	....	.1990		8	....	.3230		P	16.67	.6562	21/32
.79	.0312	1/32	...	2.5	.0984			5.1	.2008			8.25	.3248			17.0	.6693	
.8	.0315			....	.0995		39	....	.2010		7	8.3	.3268			17.06	.6719	43/64
....	.0320		67	....	.1015		38	5.16	.2031	13/64	...	8.33	.3281	21/64	..	17.46	.6875	11/16
....	.0330		66	2.6	.1024			....	.2040		6	8.4	.3307			17.5	.6890	
.85	.0335			....	.1040		37	5.2	.2047			....	.3320		Q	17.86	.7031	45/64
....	.0350		65	2.7	.1063			....	.2055		5	8.5	.3346			18.0	.7087	
.9	.0354			....	.1065		36	5.25	.2067			8.6	.3386			18.26	.7187	23/32
....	.0360		64	2.75	.1082			5.3	.2086			....	.3390		R	18.5	.7283	
....	.0370		63	2.78	.1094	7/64	...	....	.2090		4	8.7	.3425			18.65	.7344	47/64
.95	.0374			....	.1100		35	5.4	.2126			8.73	.3437	11/32	...	19.0	.7480	
....	.0380		62	2.8	.1102			....	.2130		3	8.75	.3445			19.05	.7500	3/4
....	.0390		61	....	.1110		34	5.5	.2165			8.8	.3465			19.45	.7656	49/64
1.0	.0394			....	.1130		33	5.56	.2187	7/32	...	....	.3480		S	19.5	.7677	
....	.0400		60	2.9	.1141			5.6	.2205			8.9	.3504			19.84	.7812	25/32
....	.0410		59	....	.1160		32	....	.2210		2	9.0	.3543			20.0	.7874	
1.05	.0413			3.0	.1181			5.7	.2244			....	.3580		T	20.24	.7969	51/64
....	.0420		58	....	.1200		31	5.75	.2263			9.1	.3583			20.5	.8071	
....	.0430		57	3.1	.1220			....	.2280		1	9.13	.3594	23/64	...	20.64	.8125	13/16
1.1	.0433			3.18	.1250	1/8	...	5.8	.2283			9.2	.3622			21.0	.8268	
1.15	.0452			3.2	.1260			5.9	.2323			9.25	.3641			21.03	.8281	53/64
....	.0465		56	3.25	.1279			....	.2340		A	9.3	.3661			21.43	.8437	27/32
1.19	.0469	3/64	...	....	.1285		30	5.95	.2344	15/64	...	....	.3680		U	21.5	.8465	
1.2	.0472			3.3	.1299			6.0	.2362			9.4	.3701			21.83	.8594	55/64
1.25	.0492			3.4	.1338			....	.2380		B	9.5	.3740			22.0	.8661	
1.3	.0512			....	.1360		29	6.1	.2401			9.53	.3750	3/8	...	22.23	.8750	7/8
....	.0520		55	3.5	.1378			....	.2420		C	....	.3770		V	22.5	.8858	
1.35	.0531			....	.1405		28	6.2	.2441			9.6	.3780			22.62	.8906	57/64
....	.0550		54	3.57	.1406	9/64	...	6.25	.2460		D	9.7	.3819			23.0	.9055	
1.4	.0551			3.6	.1417			6.3	.2480			9.75	.3838			23.02	.9062	29/32
1.45	.0570			....	.1440		27	6.35	.2500	1/4	E	9.8	.3858			23.42	.9219	59/64
1.5	.0591			3.7	.1457			6.4	.2520			....	.3860		W	23.5	.9252	
....	.0595		53	....	.1470		26	6.5	.2559			9.9	.3898			23.81	.9375	15/16
1.55	.0610			3.75	.1476			....	.2570		F	9.92	.3906	25/64	...	24.0	.9449	
1.59	.0625	1/16	...	....	.1495		25	6.6	.2598			10.0	.3937			24.21	.9531	61/64
1.6	.0629			3.8	.1496			....	.2610		G	....	.3970		X	24.5	.9646	
....	.0635		52	....	.1520		24	6.7	.2638			....	.4040		Y	24.61	.9687	31/32
1.65	.0649			3.9	.1535			6.75	.2656	17/64	...	10.32	.4062	13/32	...	25.0	.9843	
1.7	.0669			....	.1540		23	6.75	.2657			....	.4130		Z	25.03	.9844	63/64
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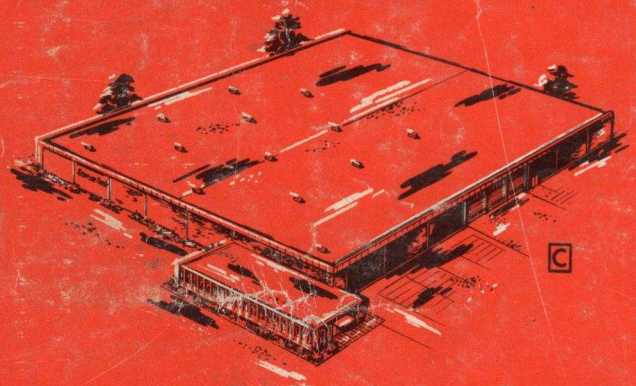
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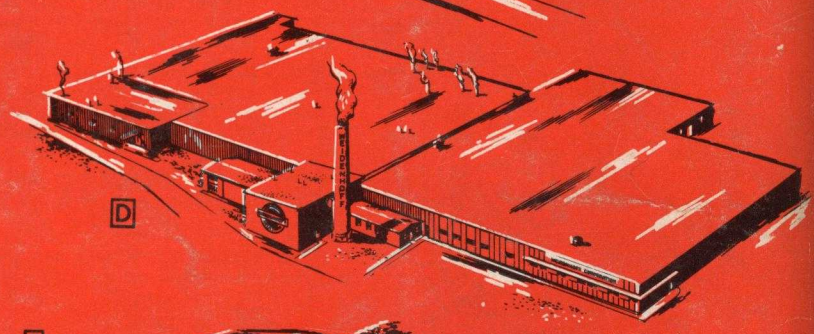
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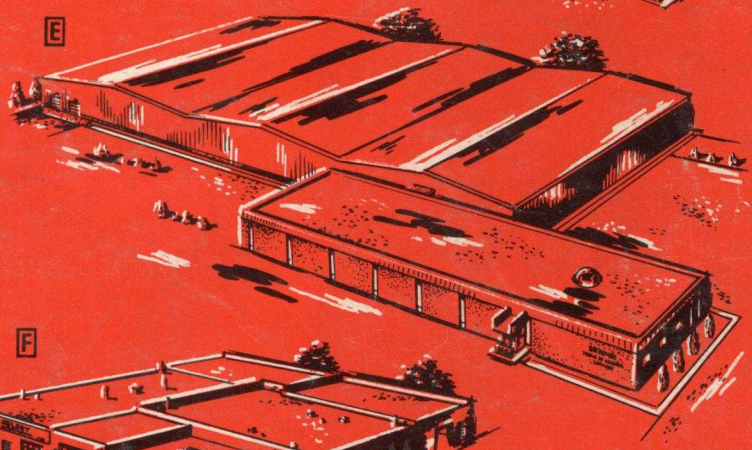
FACILITIES ARE GEARED TO THE GROWING NEEDS OF INDUSTRY AND PROFESSIONAL SERVICE MECHANICS

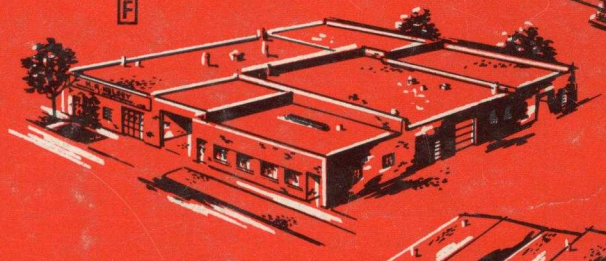

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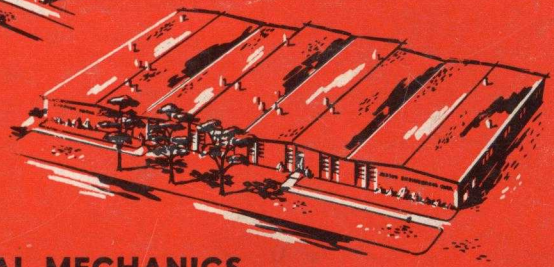

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